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Carrier Enrollment ICD Companion Guide

Version 3.0

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Revision History

Version	Date	Modified By	Description
1.0	04/04/13	Brad Fredericks	Initial Draft.
2.0	04/26/13	Brad Fredericks	Removed 834Echo and replaced with 834 Confirmation. Added specification for Error message. Edits for clarity and accuracy.
3.0	04/29/13	PMO	Submit to SOV

1 Introduction

The Vermont Health Benefit Exchange (VTHBE) is intended by the Affordable Care Act (ACA) to be a facilitator in the provision of healthcare coverage to its eligible citizens seeking it. It is intended to bring issuers and applicants together and streamline and operationally ease the task of applying for and enrolling in a healthcare plan.

This *Carrier Enrollment ICD Companion Guide* document serves as a supplement to the information provided in the *Carrier Enrollment Interface Control Document* (ICD).

This *Carrier Enrollment ICD Companion Guide* contains detailed information about how the VT HBE will use the ASC X12 Benefit Enrollment and Maintenance (834) transaction, based on the *005010X220 Implementation Guide* and its associated 005010X220A1 addenda.

In addition, this guide provides information for problem resolution, security, and interoperability testing.

2 EDI Acknowledgements

2.1 TA1 Interchange Acknowledgement

- The VT HBE expects to receive a TA1 interchange acknowledgment for every outbound 834 message sent.
- The VT HBE will send a TA1 acknowledgement for every inbound 834 message received when requested in the interchange control header.

The TA1 is the only synchronous message that the VT HBE expects to receive in response to a message.

2.2 Functional Acknowledgement

The VT HBE expects to receive a functional acknowledgment message only when an 834 message fails to pass the Issuer's transaction business logic or if any HIPAA validation errors are detected.

3 Subscribers/Dependents

Subscribers and dependents are sent as separate occurrences of Loop 2000 within the same message. The initial enrollment for the subscriber must be sent before sending the initial enrollment for any of the subscriber's dependents.

4 Character Set

As specified in the TR3, the basic character set includes uppercase letters, digits, space, and other special characters with the exception of those used for delimiters.

- All HIPAA segments and qualifiers must be submitted in UPPERCASE letters only.
- Suggested delimiters for the transaction are assigned as part of the trading partner set up. EDI Representative will discuss options with trading partners, if applicable.
- To avoid syntax errors, hyphens, parentheses and spaces are not recommended to be used in values for identifiers.

Examples: Tax ID 123654321 SSN 123456789 Phone 8001235010

5 Small Business vs. Individual Transactions

Separate 834 messages will be created for Individual and Small Business enrollments to aid QHP issuers in processing enrollment transactions.

6 Control Segments/Envelopes

Trading partners should follow the Interchange Control Structure (ICS) and Functional Group Structure (GS) guidelines for HIPAA that are located in the HIPAA Implementation Guides. The following sections address specific information needed by the VT HBE in order to process the ASC X12N/005010X220A1-834 Benefit Enrollment and Maintenance Transaction. This information should be used in conjunction with the ASC X12N/005010X220 Benefit Enrollment and Maintenance TR3.

Exhibit 1: Control Segments

Element Name	Element	Value
Authorization Information Qualifier	ISA01	"00"
Security Information Qualifier	ISA03	"00"
Interchange Sender ID Qualifier	ISA05	"ZZ"
Interchange Sender ID	ISA06	Sender's Federal Tax ID
Interchange ID Qualifier	ISA07	"ZZ"
Interchange Receiver ID	ISA08	"<RECEIVERS FEDERAL TAX ID>"
Interchange Control Number	ISA13	A unique control number assigned by the VT HBE. Note that manual problem resolution may require the re-transmission of an existing control number.
Interchange Acknowledgment Requested	ISA14	"1"
Interchange Usage Indicator	ISA15	"P" Production Data
Functional Identifier Code	GS01	"BE"
Application Sender's Code	GS02	Sender's Code (usually, but not necessarily, the Senders Federal Tax ID)
Application Receiver's Code	GS03	"<RECEIVER'S FEDERAL TAX ID>"

7 Detailed Business Scenarios for 834

The following sections present supplemental instructions for the content of 834 messages in the context of standard enrollment operations.

These business scenarios supported by the VT HBE are based on the *CMS FFE Standard Companion Guide*. Additional instruction has been provided in areas where the VT HBE usage of the 834 differs from the CMS approach.

The following table presents an overview of the transactions supported by the VT HBE, along with the party that will be permitted to initiate each message.

Exhibit 2: 834 Summary

Transaction Type	VT HBE – > QHP Issuer	VT HBE < – QHP Issuer
Initial Enrollment	X	
Confirmation/Effectuation		X
834 Confirmation	X	X
Error	X	X
Change	X	
Cancellation	X	X
Termination	X	(Non-Payment only)
Reinstatement	X	
Reconciliation	X	X

7.1 Initial Enrollment Supplemental Instructions - VT HBE to QHP Issuer

An Initial Enrollment transmission is created by the Exchange and sent to the QHP Issuer after an application has been determined eligible, a QHP has been selected, and payment has been verified.

Exhibit 3: Initial Enrollment Supplemental Instructions (VT HBE to QHP Issuer)

Loop	Element	Element Name	Code	Instruction
Header	BGN	Beginning Segment		
	BGN08	Action Code	2	"Change" - Used to identify a transaction of additions.
Header	REF	Transaction Set Policy Number		There is never a unique ID number applicable to an entire transaction set.
Header	DTP	File Effective Date		Will transmit to indicate the date the information was gathered if that date is not the same as ISA09/GS04 date
	DTP01	Date Time Qualifier	303	"Maintenance Effective" - Date the enrollment information was collected by the exchange.
Header	QTY	Transaction Set Control Totals		Will transmit all 3 iterations of this segment for each for the qualifiers specified in QTY01.
	QTY01	Quantity Qualifier	TO	Total. Will transmit to indicate that the value conveyed in QTY02 represents the total number of INS segments in this ST/SE set.
			DT	Dependent Total. Will transmit to indicate that the value conveyed in QTY02 represents the total number of INS segments in this ST/SE set with INS01 = "N"
			ET	Employee Total. Will transmit to indicate that the value conveyed in QTY02 represents the total number of INS segments in this ST/SE set with INS01 = "Y"
1000A	N1	Sponsor Name		
	N103	ID Code Qualifier	24	Small Business. (Small Business Market identifies the employer group.)
			FI	Individual Market. (Individual Market identifies the subscriber from the enrollment group, unless the subscriber is under-aged. If the subscriber is under-aged, identifies the responsible person.)
1000B	N1	Payer		Identifies the issuer of the QHP
	N103	Identification Code	FI	Federal Taxpayer ID - will transmit until the HPID is required.
			XV	Will transmit after the HPID is required. (Unique National Health Plan Identifier)
1000C	N1	TPA/Broker Name		Broker information will not be transmitted.

Loop	Element	Element Name	Code	Instruction
2000	INS	Member Level Detail	2000	INS
	INS02	Relationship Code		Will transmit member relationship codes when known.
	INS03	Maintenance Type Code	021	"Addition"
	INS04	Maintenance Reason Code	EC	"Member Benefit Selection" - Will transmit when the member has selected a QHP.
	INS05	Benefit Status Code	A	"Active"
	INS08	Employment Status Code	AC	"Active"
2000	REF	Subscriber Identifier		
	REF02	Subscriber Identifier		The Exchange Assigned ID of the primary coverage person.
2000	REF	Member Supplemental Identifier		
	REF01	Reference Identification Qualifier	17	"Client Reporting Category" - The Exchange Assigned Member ID will be conveyed in REF02.
2100A	NM1	Member Name		
	NM109	Member Identifier		Will transmit the member's SSN when known.
2100A	PER	Member Communications Numbers		
	PER03	Communication Number Qualifier		Will transmit three communication contacts --- home phone, work phone, cell phone, or email address --- when the information is available. Communication contacts will be sent in the following order: 1st --- Primary Phone ("TE") 2nd --- Secondary Phone ("AP") 3rd --- Preferred Communication Method ("EM" for email or "BN" for a phone number for receiving text messages). If no preferred communication method is chosen, the third communication contact will not be sent.
2100A	N3	Member Residence Street Address		
2100A	N4	Member City, State, ZIP Code		
	N404	Country Code		Will transmit Country of Residence when available.
	N406	Location Identifier		County of Residence will not be transmitted.
2100A	EC	Employment Class		This segment will never be transmitted.
2100A	ICM	Member Income		This segment will never be transmitted.

Loop	Element	Element Name	Code	Instruction
2100A	AMT	Member Policy Amounts		This segment will never be transmitted.
2100A	HLH	Member Health Information		This segment will never be transmitted.
2100A	LUI	Member Language		This segment will never be transmitted.
2100B		Incorrect Member Name Loop		This loop does not apply to initial enrollments.
2100D		Member Employer Loop		This loop will never be transmitted.
2100E		Member School Loop		This loop will never be transmitted.
2100F		Custodial Parent Loop		Because minors are subscribers in their own right, custodial parent information will always be sent for minor subscribers when known.
2100G		Responsible Person Loop		The Custodial Parent loop and the Responsible Person loop may both be transmitted for an enrollment.
2100G	NM1	Responsible Person		
	NM101	Entity Identifier Code		Will transmit "QD" (Responsible Party) or "S1" (Parent) as appropriate.
	NM109	Responsible Party Identifier		Will transmit the SSN when known.
2100G	PER	Responsible Person Communication Numbers		
	PER03	Communication Number Qualifier		Will transmit three communication contacts --- home phone, work phone, cell phone, or email address --- when the information is available. Communication contacts will be sent in the following order: 1st --- Primary Phone ("TE") 2nd --- Secondary Phone ("AP") 3rd --- Preferred Communication Method ("EM" for email or "BN" for a phone number for receiving text messages). If no preferred communication method is chosen, the 3rd communication contact will not be sent.
2100H		Drop-Off Location Loop		This loop will never be transmitted.
2200		Disability Information Loop		This loop will never be transmitted.
2300	HD	Health Coverage		
	HD03	Insurance Line Code	HLT DEN	Will transmit coverage information for the qualifiers shown, as applicable.
2300	DTP	Health Coverage Dates		
	DTP01	Date Time Qualifier	348	"Benefit Begin" - On initial enrollment the effective date of coverage will be provided.

Loop	Element	Element Name	Code	Instruction
2300	REF	Health Coverage Policy Number		
	REF01	Reference Identification Qualifier	CE	Individual: "Class of Contract Code" - QHP ID Purchased is the Assigned Plan Identifier. This is represented as the HIOS Plan ID Component + subcomponent.
			E8	Small Business: "Service Contract (Coverage) Number" - Will transmit the Employer Group Number in the associated REF02 element.
			1L	Will transmit when the Exchange Assigned Policy Identifier will be conveyed in the associated REF02 element.
2300	REF	Prior Coverage Months		This segment will never be transmitted.
2300	REF	Identification Card		This segment will never be transmitted.
2310	NM	Provider Information Loop		This segment will be transmitted when a provider NPI is available.
	NM101	Entity Identifier Code	P3	"Primary Care Provider"
	NM108	Identification Code Qualifier	XX	Centers for Medicare and Medicaid Services National Provider Identifier
	NM109	Identification Code		The NPI will be transmitted as entered by the subscriber on enrollment.
	NM110	Entity Relationship Code	72	"Unknown" - The exchange will not specify whether the member is an existing patient of the provider.
2320		Coordination of Benefits Loop		This loop will be transmitted when other insurance coverage has been identified.
2330		Coordination of Benefits Related Entity Loop		This loop will be transmitted when other insurance coverage has been identified.
2700		Member Reporting Categories Loop		This loop will be transmitted when additional premium category reporting is appropriate.
2750	N1	Reporting Category		See Sections 9.5 and 9.6 of the CMS guide for explicit instructions related to the 2750 loop.

7.2 Enrollment Confirmation/Effectuation Supplemental Instructions - QHP Issuer to VT HBE

An Effectuation/Confirmation transmission is created by the QHP Issuer and sent to the Exchange for 834 initial enrollment transactions that have been successfully processed.

QHP Issuers must return all the information transmitted on the Initial Enrollment Transaction in addition to the information detailed in following table.

Additions of dependent members to an existing subscriber policy will require an Effectuation response.

Exhibit 4: Initial Enrollment Supplemental Instructions (QHP Issuer to VT HBE)

Loop	Element	Element Name	Code	Instruction
Header	BGN	Beginning Segment		
	BGN06	Original Transaction Set Reference Number		Transmit the value from BGN02 in the initial enrollment transaction.
Header	QTY	Transaction Set Control Totals		If the transaction set control totals sent with the Initial Enrollment transaction are not accurate for this confirmation/effectuation, transmit accurate totals instead of the values received in the Initial Enrollment transaction.
	QTY01	Quantity Qualifier	TO	Total. Will transmit to indicate that the value conveyed in QTY02 represents the total number of INS segments in this ST/SE set. It is required for all transactions.
			DT	Dependent Total. Will transmit to indicate that the value conveyed in QTY02 represents the total number of INS segments in this ST/SE set with INS01 = "N". It is required for all transactions.
			ET	Employee Total. Will transmit to indicate that the value conveyed in QTY02 represents the total number of INS segments in this ST/SE set with INS01 = "Y".
2000	INS	Member Level Detail		
	INS03	Maintenance Type Code	021	"Addition"
	INS04	Maintenance Reason Code	28	"Initial Enrollment"
2000	REF	Member Supplemental Identifier		
	REF01	Reference Identification Qualifier	23	Transmit with the QHP Issuer Assigned Member ID conveyed in REF02.
			ZZ	Transmit with the QHP Issuer Assigned Subscriber ID conveyed in REF02.
2100B		Incorrect Member Name Loop		Do not transmit this loop unless it was included in the 834 transaction that is being confirmed.

Loop	Element	Element Name	Code	Instruction
2300	DTP	Health Coverage Dates		Only 1 iteration required.
	DTP01	Date Time Qualifier	348	"Benefit Begin" - The Actual Enrollment Begin Date must be transmitted when confirming initial enrollment transactions.
2300	REF	Health Coverage Policy Number		
	REF01	Reference Identification Qualifier	X9	Transmit with the QHP Issuer assigned Health Coverage Purchased Policy Number conveyed in the associated REF02 element.
2700		Member Reporting Categories Loop		One iteration of this loop is required for all confirmations.
2750	N1	Reporting Category		See Sections 9.5 and 9.6 of the CMS guide for explicit instructions related to the 2750 loop.
	N102	Member Reporting Category Name		"ADDL MAINT REASON"
2750	REF	Reporting Category Reference		
	REF01	Reference Identification Qualifier	17	"Client Reporting Category"
	REF02	Member Reporting Category Reference ID		Transmit this text: "CONFIRM"

7.3 834 Confirmation Messages – VT HBE to QHP Issuer, QHP Issuer to VT HBE

As previously described, QHP Issuers are required to send an effectuated 834 only in response to 834 initial enrollment messages sent by the VT HBE.

In response to all other non-initial enrollment 834 messages sent by either the VT HBE or QHP Issuer, such as change, cancel, terminate, and reinstatements, an 834 “confirmation” message will be sent to confirm successful processing.

The “confirmation” message should include the data sent on the originating 834 message, along with any data elements that were modified after processing by the receiving system. This message should represent an end state reflection of 834 after a QHP Issuer’s internal processing has occurred.

The key distinction between the two types of confirmation messages is that an Effectuation is populated with several data elements that differ from the initial enrollment message, such as subscriber identifiers, member identifiers, transaction totals, and maintenance types. In contrast, the “confirmation” message contains a copy of the enrollment related data after it has been processed.

The 834 confirmation message will not be sent if an error occurs during processing of an 834 transaction.

7.4 Error Message – VT HBE to QHP Issuer, QHP Issuer to VT HBE

In situations where an 834 message is unable to be processed by either the VT HBE or QHP Issuer due to logical errors, a special Error will be sent in place of the 834 confirmation.

This structure and content of this Error message is specified in the following table.

Exhibit 5: Error Message Structure

Data Item	Type	Mandatory	Description	Min	Max
MessageID	AlphaNumeric	Yes	This value must be populated with the reference identification number from BGN02 belonging to the transaction that produced the error.		
ProcessDate	Numeric	Yes	CCYYMMDDHHMMSS	14	14
ErrorSource	AlphaNumeric	Yes	An identifier specifying the system sending this error message.	2	50
CompareType	Numeric	Yes	A flag indicating the method that was used to process the 834. Must be one of the following values: 0 System Process 1 Manual Review	1	1
ErrorSummary	AlphaNumeric	Yes	This is a free text field used to provide additional description of the error that occurred.	1	500
ErrorCode	AlphaNumeric	Yes	A value corresponding to an item in the list of error codes in the following table.	1	3

The following table lists error codes.

Exhibit 6: Error Codes

Error Code	Description
2	Data Error: Invalid Number.
8	Mismatch on date of birth.
12	A different Spouse/Domestic Partner exists on our system.
13	Possible twin or name misspelled.
15	Invalid Zip Code.
22	Submitted coverage effective date is less than existing coverage effective date.
28	City/State does not match with Cities/States associated with submitted Zip
38	Individual who dropped off the current eligibility file and were Terminated.
64	Date of birth is more than 120 years in the past.
65	Supplied data contains one or more invalid characters. Invalid character(s) in MNME field.

7.5 Cancellation Instructions – VT HBE to QHP Issuer

An 834 cancellation transaction is used in a situation where specific individual market coverage is cancelled prior to the effective date of enrollment.

Enrollment Cancellation Messages will only be sent from the VT HBE to the QHP Issuer.

A cancellation can be initiated by the Exchange any time prior to the effective date of the initial coverage. Situations where the Exchange may cancel an enrollment include an individual getting coverage through an employer prior to the start of coverage, or an individual moving out of a coverage area before coverage is started.

In situations where the QHP Issuer needs to cancel coverage prior to the effective date due to death, fraud, or non-payment, the Issuer will contact a representative at the VT HBE, who will initiate the cancellation.

Information specific to the VT HBE implementation of cancellation transactions is outlined in the following table.

Exhibit 7: Enrollment Cancellation Instructions

Loop	Element	Element Name	Code	Instruction
2000	INS	Member Level Detail		
	INS03	Maintenance Type Code	024	"Cancellation or Termination"
	INS04	Maintenance Reason Code		Any valid Maintenance Reason Code may be used.
2000	REF	Subscriber Identifier		
	REF02	Subscriber Identifier		The Exchange Assigned ID of the primary coverage person.

Loop	Element	Element Name	Code	Instruction
2000	REF	Member Supplemental Identifier		Transmit The IDs shown below when they were present on the Initial Enrollment
	REF01	Reference Identification Qualifier	17	When the Exchange Assigned Member ID is conveyed in REF02.
			23	When the QHP Issuer Assigned Member ID is conveyed in REF02.
2000	DTP	Member Level Dates		
	DTP01	Date Time Qualifier	357	Eligibility End Date
	DTP03	Status Information Effective Date		The eligibility end date of the termination must be transmitted.
2300	DTP	Health Coverage Dates		
	DTP01	Date Time Qualifier	349	Benefit End Date
2700		Member Reporting Categories Loop		One iteration of this loop is required for all cancellations.
2750	N1	Reporting Category		See Sections 9.5 and 9.6 of the CMS guide for explicit instructions related to the 2750 loop.
	N102	Member Reporting Category Name		"ADDL MAINT REASON"
2750	REF	Reporting Category Reference		
	REF01	Reference Identification Qualifier	17	"Client Reporting Category"
	REF02	Member Reporting Category Reference ID		Transmit this Text: "CENCEL"

7.6 Enrollment Termination Supplemental Instructions - VT HBE to QHP Issuer, QHP Issuer to VT HBE

A termination transaction can be initiated by either the Exchange or the QHP Issuer. A termination transaction is initiated in situations when the enrollment is to be ended after the effective date of coverage.

The Exchange may initiate a termination transaction for any valid reason; however the QHP issuer is only permitted to initiate a termination for non-payment of coverage, death of the member, or fraud.

When coverage is terminated, the benefit end dates must always be prospective – either the end of the current month, or a subsequent month. However, when termination is due to death of the member, the benefit end date will be retroactive to the end of the month of death.

Information specific to the VT HBE implementation of termination transactions is outlined in the following table.

Exhibit 8: Enrollment Termination Instructions

Loop	Element	Element Name	Code	Instruction
2000	INS	Member Level Detail		
	INS03	Maintenance Type Code	024	"Cancellation or Termination"
	INS04	Maintenance Reason Code	59	VT HBE <-- QHP Issuer. The following is the only valid reason for a QHP to terminate coverage: "59 - Non Payment" - Nonpayment of Premium. VT HBE --> QHP Issuer. Any valid Maintenance Reason Code may be used.
2000	REF	Subscriber Identifier		
	REF02	Subscriber Identifier		The Exchange Assigned ID of the primary coverage person.
2000	REF	Member Supplemental Identifier		Transmit The IDs shown below when they were present on the Initial Enrollment
	REF01	Reference Identification Qualifier	17	When the Exchange Assigned Member ID is conveyed in REF02.
			23	When the QHP Issuer Assigned Member ID is conveyed in REF02.
2000	DTP	Member Level Dates		
	DTP01	Date Time Qualifier	357	Eligibility End Date
	DTP03	Status Information Effective Date		The eligibility end date of the termination must be transmitted.
2300	DTP	Health Coverage Dates		
	DTP01	Date Time Qualifier	349	Benefit End Date
2700		Member Reporting Categories Loop		One iteration of this loop is required for all cancellations.

Loop	Element	Element Name	Code	Instruction
2750	N1	Reporting Category		See Sections 9.5 and 9.6 of the CMS guide for explicit instructions related to the 2750 loop.
	N102	Member Reporting Category Name		"ADDL MAINT REASON"
2750	REF	Reporting Category Reference		
	REF01	Reference Identification Qualifier	17	"Client Reporting Category"
	REF02	Member Reporting Category Reference ID		Transmit this Text: "TERM"

7.7 Other Transaction Instructions

7.7.1 Member Reporting Categories Loop

The VT HBE will report APTC, CSR, and small business employer contribution amounts to QHP issuers in the 834 Member Reporting Categories Loop using the mechanism identified in the *CMS Companion Guide for the Federally Facilitated Exchange (FFE)*.

Specific instructions for reporting these values can be found in Sections 9.5 and 9.6 of the *CMS Companion Guide*.

7.7.2 Change Transactions - VT HBE to QHP Issuers

The VT HBE will issue a standard 834 Change transaction to update information that has changed. Examples of this would be changes in member name and/or contact information.

The VT HBE will be the system of record for member information. Consequently, QHP issuers will not initiate a Change transaction.

7.7.3 Individual Market Re-Enrollment Supplemental Instructions - VT HBE to QHP Issuer

A re-enrollment transaction is generated when an enrollee who has been terminated needs to be re-enrolled.

A potential reason for this transaction would be when the subscriber is no longer eligible and the remaining members of the enrollment group need to be re-enrolled under a new subscriber. In this situation, the previous QHP issuer subscriber identifier will be conveyed as a member supplemental identifier, accompanied by the Exchange generated subscriber identifier for the new subscriber.

Only the Exchange can initiate Re-Enrollment transactions.

Except as noted in the table below, the Reinstatement transaction will contain all the information transmitted on the Initial Enrollment Transaction.

Exhibit 9: Re-enrollment Instructions

Loop	Element	Element Name	Code	Instruction
2000	INS	Member Level Detail		
	INS04	Maintenance Reason Code	41	"Re-enrollment"
2000	REF	Member Supplemental Identifier		Transmit the IDs shown below when they were present on the Initial Enrollment
	REF01	Reference Identification Qualifier	Q4	"Prior Identifier Number." When the previous QHP Issuer Assigned Subscriber ID will be conveyed in REF02.

7.7.4 Reinstatement Instructions, VT HBE to QHP Issuer

A Reinstatement transaction is generated when an enrollee who has been cancelled or terminated needs to be reinstated.

All reinstatement transactions will be initiated by the VT HBE. In situations where a QHP Issuer needs to reinstate coverage, this will be communicated to the VT HBE support staff, who will initiate the transaction.

Except as noted in the following table, the Reinstatement transaction will contain all the information transmitted on the Initial Enrollment Transaction.

Exhibit 10: Reinstatement Instructions

Loop	Element	Element Name	Code	Instruction
2000	INS	Member Level Detail		
	INS04	Maintenance Reason Code	41	In the context of a Reinstatement, the "Re-enrollment" code will be used.

7.7.5 Change in Health Coverage

The VT HBE will send two Coverage Level Change transactions to the QHP Issuer when an enrollee's health coverage level changes.

The first Coverage Level Change transaction will communicate a health coverage termination for the prior coverage level, followed by a second Coverage Change transaction to convey enrollment in the new health coverage level (new coverage).

When coverage is terminated in this scenario, the benefit end dates must always be prospective – either the end of the current month, or a subsequent month. The benefit begin date for the new coverage specified in the new enrollment transaction will be the first of the following month.

7.7.6 Change in Circumstance - Small Business Market

Change in circumstance procedures for situations that require a new enrollment during the month, such as the enrollment of a newborn, will be determined by the State of Vermont at a later date and documented in a separate guide.

7.7.7 Termination Due to Address Change

The VT HBE will send two transactions to the QHP Issuer when a change of address results in a QHP termination. The first transaction will communicate the change of address and the second will initiate the termination.

7.8 Reconciliation Process

The VT HBE requires QHP issuers to reconcile enrollment files with the VT HBE on a regular basis in order to identify irregularities between the records contained in each system.

7.8.1 Frequency

In the initial stages of the VT HBE operation, reconciliation will take place on a weekly basis. The intention is to identify anomalies and exceptions scenarios as early as possible, in an effort to respond quickly and minimize the impact of issues.

After any critical issues in the enrollment process have been addressed, the frequency of reconciliation will shift to a monthly basis.

7.8.2 Reconciliation Message

The VT HBE will send a QHP issuer a standard 834 “audit or compare” message with a Maintenance Type Code of “030,” which will contain all enrollment data for the active enrollments present on that day.

7.8.3 Issues Identified Through Reconciliation

QHP issuers are required to independently devise a suitable methodology to identify discrepancies between their records and the reconciliation file provided by the VT HBE. The VT HBE will apply its own processes for comparing a QHP Issuer's audit file against records in the Exchange.

Any issues identified by QHP issuers will be reported to the VT HBE. Likewise, the VT HBE will report any issues to QHP issuers.

Initially, the resolution of issues identified through the reconciliation process will be a manual process.

8 Problem Resolution

Section 4.2 of the *Carrier Enrollment – Individual and Employee Interface Control Document* describes the sequence of steps that take place in order to carry out each of the Group and Enrollment operations.

When carrying out these operations, the system processing the operation can encounter logical errors or timeouts in SLA thresholds, which cause the failure of the operation.

As described earlier, the Error message will provide a structure for signaling errors and transmitting error details. This information will be important in order to provide the necessary context for evaluating the severity of the issue and initiating the appropriate steps for successful resolution.

The following sections describe how to address situations when the party initiating an operation sends a request that cannot be processed by the party receiving the message.

8.1 Business Processes

The following sections define the specific problem resolution processes that will be followed when an issue is encountered during each operation.

8.1.1 Create Employer Group

During the employer group creation process, the VT HBE calls the Carriers' Group Web Service with an operation type of "Create".

The Carrier receives the request, and conducts its own internal processing.

If the Carrier encounters a logical issue that prevents the creation of the Group, the following problem resolution procedure is followed:

1. VT HBE receives the error notification from Carrier.
2. VT HBE adds the error to an internal error work list.
3. Customer service representative is assigned the error and contacts the carrier.
4. The VT HBE and Carrier work to resolve the underlying issues through manual processes.
5. One of the following actions completes the transaction:
 - a. Transaction re-attempted without modification.
 - b. Data in transaction is changed, transaction re-attempted.
 - c. Group created manually.

8.1.2 Group Maintenance – Initiated by VT HBE

During the VT HBE initiated Group Maintenance process, the VT HBE calls the Carrier Group Web Service with an action type of “Change” and posts the request internally, expecting a callback.

If the Carrier cannot perform the requested change, the following problem resolution process is carried out:

1. VT HBE receives the error notification from Carrier.
2. VT HBE adds the error to an internal error work list.
3. Customer service representative is assigned the error and contacts the carrier.
4. The VT HBE and Carrier work to resolve the underlying issues through manual processes.
5. One of the following actions completes the transaction:
 - a. Transaction re-attempted without modification.
 - b. Data in transaction is changed, transaction re-attempted.
 - c. Group change made manually.

8.1.3 Group Maintenance Initiated by Carrier

During the Carrier initiated Group Maintenance process, the Carrier calls the VT HBE Group Web Service with an action type of “Change” and posts the request internally, expecting a callback.

If the VT HBE cannot perform the requested change, the following problem resolution process is carried out:

1. Carrier receives the error notification from VT HBE.
2. Carrier adds the error to an internal error work list.
3. Customer service representative is assigned the error and contacts the VT HBE.
4. The VT HBE and Carrier work to resolve the underlying issues through manual processes.
5. One of the following actions completes the transaction:
 - a. Transaction re-attempted without modification.
 - b. Data in transaction is changed, transaction re-attempted.
 - c. Group change made manually.

8.1.4 Employee Enrollment

Employee enrollment occurs at the point that a) the Group has been confirmed and b) VT HBE has received notice of initial premium payment settlement. The VT HBE will 'package' up all current enrollees in a particular Group and call the Carrier's Enroll Web Service.

The Carrier(s) asynchronously process the enrollments and for all successful enrollees make a call with Effectuated data to the VT HBE's Enroll Callback Web Service.

For those enrollments that could not be processed, the following problem resolution process is carried out:

1. VT HBE receives the error notification from Carrier.
2. VT HBE adds the error to an internal error work list.
3. Customer service representative is assigned the error and contacts the carrier.
4. The VT HBE and Carrier work to resolve the underlying issues through manual processes.
5. One of the following actions completes the transaction:
 - a. Transaction re-attempted without modification.
 - b. Data in transaction is changed, transaction re-attempted.
 - c. Enrollment done manually.

8.1.5 Employee Maintenance Initiated by VT HBE

During employee maintenance, the VT HBE calls the Carrier Enroll Web Service, with an action of "Change" and corresponding data are provided to indicate the nature of the change.

If the enrollment change request sent by the VT HBE cannot be carried out, the following resolution process is carried out:

1. VT HBE receives the error notification from Carrier.
2. VT HBE adds the error to an internal error work list.
3. Customer service representative is assigned the error and contacts the carrier.
4. The VT HBE and Carrier work to resolve the underlying issues through manual processes.
5. One of the following actions completes the transaction:
 - a. Transaction re-attempted without modification.
 - b. Data in transaction is changed, transaction re-attempted.
 - c. Enrollment change done manually.

8.1.6 Employee Maintenance Initiated by Carrier

When employee maintenance is initiated by the Carrier, the Carrier calls the VT HBE Enroll Web Service with an action type of “Change,” along with other appropriate data.

The VT HBE asynchronously evaluates the change request, applies known business logic and appropriate business rules to the request and evaluates validity.

If the request is not valid, the following resolution process is carried out:

1. Carrier receives the error notification from VT HBE.
2. Carrier adds the error to an internal error work list.
3. Customer service representative is assigned the error and contacts the VT HBE.
4. The VT HBE and Carrier work to resolve the underlying issues through manual processes.
5. One of the following actions completes the transaction:
 - a. Transaction re-attempted without modification.
 - b. Data in transaction is changed, transaction re-attempted.
 - c. Employee change made manually.

8.1.7 Individual Enrollment

During individual enrollment, the VT HBE formulates an enrollment message and calls the appropriate Carrier’s Enroll Web Service.

If the Carrier cannot complete the enrollment successfully, the following resolution process is carried out:

1. VT HBE receives the error notification from Carrier.
2. VT HBE adds the error to an internal error work list.
3. Customer service representative is assigned the error and contacts the carrier.
4. The VT HBE and Carrier work to resolve the underlying issues through manual processes.
5. One of the following actions completes the transaction:
 - a. Transaction re-attempted without modification.
 - b. Data in transaction is changed, transaction re-attempted.
 - c. Enrollment done manually.

8.1.8 Individual Enrollment Maintenance Initiated by VT HBE

When individual enrollment maintenance is initiated by the VT HBE, the VT HBE formulates an appropriate message and calls the Carrier Enroll Web Service, indicating a 'Change' request.

If the Carrier cannot process the request as sent, the following problem resolution process is carried out:

1. VT HBE receives the error notification from Carrier.
2. VT HBE adds the error to an internal error work list.
3. Customer service representative is assigned the error and contacts the carrier.
4. The VT HBE and Carrier work to resolve the underlying issues through manual processes.
5. One of the following actions completes the transaction:
 - a. Transaction re-attempted without modification.
 - b. Data in transaction is changed, transaction re-attempted.
 - c. Enrollment change done manually.

8.1.9 Individual Enrollment Maintenance Initiated by Carrier

When individual enrollment maintenance is initiated by a Carrier, the Carrier packages the message appropriately and calls the VT HBE Enroll Web Service, indicating a 'Change' action.

If VT HBE determines that the request is invalid for some reason, the following resolution process will be carried out:

1. Carrier receives the error notification from VT HBE.
2. Carrier adds the error to an internal error work list.
3. Customer service representative is assigned the error and contacts the VT HBE.
4. The VT HBE and Carrier work to resolve the underlying issues through manual processes.
5. One of the following actions completes the transaction:
 - a. Transaction re-attempted without modification.
 - b. Data in transaction is changed, transaction re-attempted.
 - c. Enrollment change made manually.

9 Security

9.1 Web Service Security Standards

9.1.1 WS-Security

One of the most important elements of an interface is the reliable application of appropriate security levels; further, we need to strike a balance between the very strict privacy mandates we face with the performance needs of the VT HBE system.

Standardized security for web services is provided through a very mature, well-tested model described in the OASIS WS-Security specification.

Depicted below is a fully WS-Security compliant layer for a web service request/response pair. This consists of:

1. Transport layer security (SSL)
2. A two-phase process using both symmetric and asymmetric algorithms.
3. A shared key that is used to encrypt/decrypt the message data using a symmetric algorithm such as Triple DES. Symmetric algorithms are very efficient and work with a single key for both encryption and decryption calculations. WS-Security implementations use a key that is randomly generated. Once the data of the message is encrypted, the key itself is inserted into the message. (Note that the key is also encrypted as described below.)
4. Passing the shared key in the SOAP message with the key encrypted/decrypted using an asymmetric algorithm such as RSA-V1.5. Encryption of the shared key is performed differently than the message data with an algorithm that utilizes a pair of keys -- private and public. An X.509 certificate has two keys, one that is private to the owner of the certificate and a second key that is shared with others with whom they are conducting business. Symmetric algorithms are more efficient than asymmetric algorithms; however, they require management of shared keys between the parties and have inherent security risks of their being exposed to others outside of your organization or business partners. By using only asymmetric algorithms on the random key, WS-Security provides both a relatively efficient solution and one that is easy to manage.

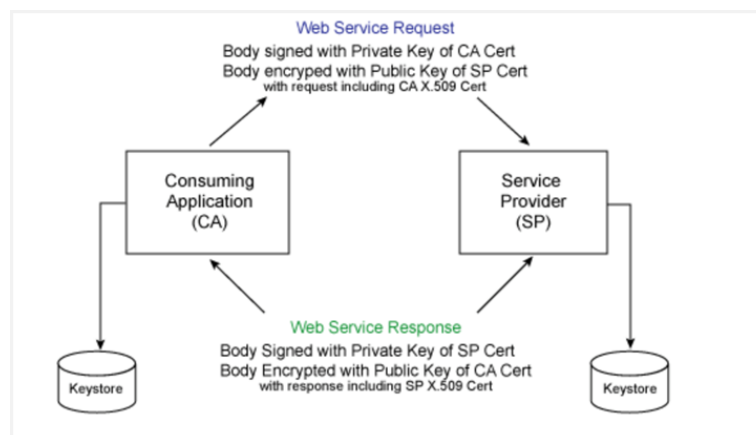


Exhibit 11: Web Service Request

Note that the implementation of this full set of security measures is an application of layers. Two of these layers require careful coordination of security keys between message exchangers, and multiple types of encryption/decryption per message exchange. The full implementation also requires the provision of formal security certificates.

9.1.2 WS-ReliableMessaging

WS-RM, another in the OASIS WS-* specification family, describes three levels of reliability assurance for web service messages.

1. Unmanaged, non-persistent
 - a. In-memory store
 - b. Non-transactional
 - c. Cannot support server clustering
 - d. Can survive network failure
2. Managed, non-persistent
 - a. In-memory store
 - b. Transaction and message sequencing support
 - c. Cluster support
 - d. Can survive network and server failure
3. Managed, persistent
 - a. Queue store
 - b. Transaction and message sequencing support
 - c. Cluster support
 - d. Can survive network, server and messaging engine failure (fully recoverable)

Again, each of these levels brings additional overhead to the infrastructure as well as the application layer. The goal, much as in WS-Security, is to strike an effective balance in the use of the various levels of implementation.

9.2 File Transfers

Though the use of file transfers as a communication mechanism is intended to be limited only to those scenarios where absolutely appropriate (reports, reconciliation data, etc.), there will still be significant security and reliability issues to be concerned with.

Below is a SFTP-based approach (using communication of a file to a Carrier Hub as an example) that CGI believes meets these concerns.

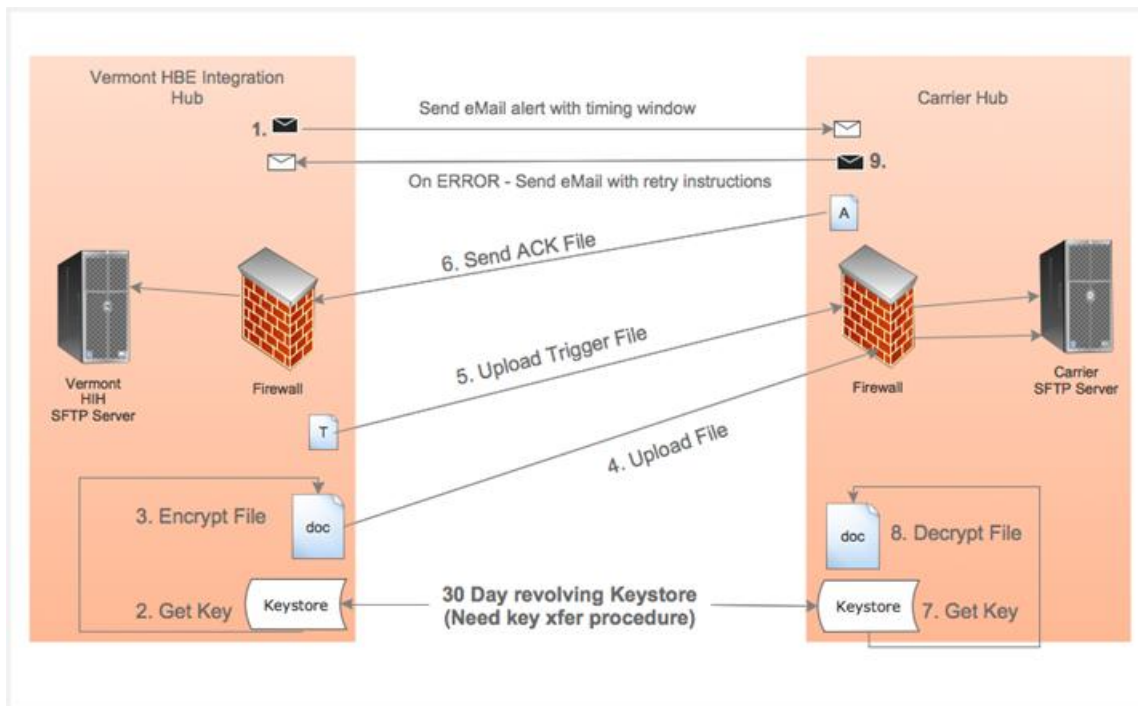


Exhibit 12: SFTP File Transfer Approach

Briefly, the model above provides for the following:

- Security via the following:
 - ▶ SSL transport layer
 - ▶ Asymmetric encryption with secure key store exchanges
- Reliability via the following:
 - ▶ Alerts that establish a file transmission “timing window”
 - ▶ Use of a ‘trigger’ file to explicitly identify that a target file was uploaded in its entirety
 - ▶ Use an a response (‘Ack’) file to indicate that the recipient confirms successful upload

9.3 Monitoring

We have identified a minimum set of requirements that we would consider adequate across five high-level monitoring areas of focus. These may be met by a spectrum of COTS packages, EA services, and customized software.

The general goal would be to provide the means by which the health of the SOA system, its underlying infrastructure, and the utilities necessary to its effective messaging can be easily observed in a real-time (or 'dashboard') fashion.

- Connection
 - ▶ Monitor service connectivity from the server and from the External Partners
 - ▶ Provide 'ping' tests that run on a schedule and report to an Admin-accessible dashboard
 - ▶ Log on a scheduled basis
- Server
 - ▶ Monitor all relevant supporting processes; check utilization levels of the server against pre-established thresholds
 - ▶ Notify and log
- Software
 - ▶ Identify key software that should be running
 - ▶ Set expected performance levels if any and then monitor and log
 - ▶ Provide Admin-accessible dashboard status
- Business Logic Testing
 - ▶ Have regularly running scripts testing any system workflows and then monitor and log
 - ▶ Provide Admin-accessible dashboard status
- SOA performance
 - ▶ Establish capacity and flow-through SLA's
 - ▶ Implement SOA Suite BAM events at key points to provide real-time measures and then monitor and log
 - ▶ Provide Admin-accessible dashboard status

10 Interoperability Testing

Carrier testing with the VT HBE will include connectivity, payload, and scenario testing. All carriers will be required to successfully complete a baseline set of test scenarios before go-live is approved. Throughout the testing process carriers and the VT HBE will enable a consistent communication and defect resolution process.

10.1 Credentialing

The first step in the testing process will be for the VT HBE and the Carriers to complete agreements to allow for EDI and Web Service Connections to be set up and to exchange the appropriate credentialing information.

10.2 Connectivity Testing

Connectivity Testing will include an interface to interface hand shake to confirm system communication. It will not verify whether or not the transmitted data is accurate.

10.3 Payload Testing

The VT HBE will send fully populated payload tests with different transactions that the Carrier test team will evaluate for accuracy. Carriers will also send fully populated payload tests with different transactions which the VT HBE test team will evaluate for accuracy.

10.4 Scenario Testing

The VT HBE will create a full set of detailed scenarios that cover a carrier's integration with the Exchange. This will include business logic for each type of transaction that was completed in the Payload Testing.

10.5 Operational Readiness Testing

The primary goal of this phase is to help ensure that the VT HBE and Carriers have exchanged credentials and provisioned those credentials for production operations. The VT HBE and the Carriers will need to verify connectivity is working and ready for October 1, 2013.

10.6 Production Connectivity Testing

Connectivity Testing in Production will entail an interface to interface hand shake to confirm the VT HBE and Carriers systems can communicate with one another.

10.7 Defect Tracking

A defect tracking protocol will be established to define processes for defect tracking, reporting, and the required informational content for defects.

Appendix A: Enrollment Scenarios – Individual

(No Payment elements included)

1. Joe Smith, with a wife and child, registers on the Exchange, qualifies for APTC, sets his amount, is verified, and selects Plan X from Carrier Z for the household, and Dental from Carrier D. His child qualifies for Medicaid, due to a disability.
 - a. He pays the first month's premium with his credit card, through the exchange
 - b. Two days later, the payment is successfully settled
 - VT HBE sends an 834 to Carrier Z (for Joe and Wife only)
 - Carrier Z sends Effectuated 834
 - VT HBE sends an 834 to Carrier D (for Joe and Wife only)
 - Carrier D sends Effectuated 834
2. One month later, Joe changes his APTC monthly amount
 - VT HBE sends an 834 to Carrier Z
 - Carrier Z sends 834 Confirmation (reflecting only sent data)
3. Three months later, his wife gives birth and he adds the second child to the coverage

Note: At present, Vermont issuers automatically cover newborns for 31 days after birth, identified without names via notification from hospital of birth. No premium adjustments are made during this period.

The State of Vermont is evaluating best way to handle this process for VT HBE.
4. Joe fails to make his next payment
 - a. He gets a notice from Carrier Z
 - b. Because Joe is APTC – qualified, this warning period extends for 90 days. (If he were non-APTC, this would extend only to a 30 day grace period)
5. Joe fails to make the following next two month's payments as well, carrying his overdue status to 91 days
 - Carrier Z cancels Joe, sends an 834 to VT HBE
 - VT HBE verifies with an 834 Confirmation
 - VT HBE flags Joe (in the system) as canceled for non-payment

6. The following month, Joe tries to enter the Exchange and enroll in a new plan
 - VT HBE prevents Joe from enrolling
7. At the next open enrollment, Joe again enrolls in a plan through the Exchange, with all the previous coverage and qualifications.
 - VT HBE sends an 834 to Carrier Z (for Joe and Wife only)
 - Carrier Z sends Effectuated 834
 - VT HBE sends an 834 to Carrier D (for Joe and Wife only)
 - Carrier D sends Effectuated 834
8. Path A: He pays on time for six months, and then changes employment. His new employer provides healthcare coverage, so Joe enters the Exchange and cancels his current policy.
 - VT HBE sends 834 to Carrier Z
 - Carrier Z sends Effectuated 834
 - VT HBE sends 834 to Carrier D
 - Carrier D sends Effectuated 834
9. Path B: He pays on time for six months, and then changes employment. His new employer provides healthcare coverage, so Joe simply stops paying.
 - a. He gets notice from his Carrier
 - 91 days later, he's canceled for non-payment and flagged in the system

Note: This would prevent him from re-enrolling as an individual in that plan year if he were to lose his job, or change to an employer that did not offer a Group plan. Resolving this would be a manual process through Customer Service (Joe would need to call).

Appendix B: Acronyms

The following table is a list of acronyms introduced in this document.

Exhibit 13: List of Acronyms

Acronym	Description
CMS	Centers for Medicare & Medicaid Services
ICD	Interface Control Document
LDM	Logical Data Model
SDD	System Design Document
HIH	VT HBE Integration Hub
OPA	Oracle Policy Automation
PGP	Pretty Good Privacy
SFTP	Secure File Transfer Protocol