CAQH CORE Benefit Enrollment and Maintenance (834) Infrastructure Rule

DRAFT for Review Workgroup Consideration

September 2023

Revision History for CORE Benefit Enrollment and Maintenance (834) Infrastructure Rule

Version	Revision	Description	Date
4.0.0	Major	Phase IV CAQH CORE 834 Benefit Enrollment Rule balloted and approved via CAQH CORE Voting Process	September 2015
BE.1.0	Minor	• Non-substantive adjustments to support re-organization of operating rules into rule sets organized by business transaction (e.g., Eligibility & Benefits, Claim Status, etc.) rather than phase (e.g., Phase I, II, etc.) as approved by the CORE Board in 2019. • Operating rule naming, versioning and numbering methodologies updated to align with business transaction-based rule sets.	May 2020
BE.2.0	Major	• Substantive updates to system availability requirements to align with current business needs. • Update Connectivity reference to align with the most recent published and CAQH CORE adopted version of the CAQH CORE Connectivity Rule. • Additional non-substantive adjustments for clarity.	April 2022
		• [RESERVED]	

1. Background Summary

The CAQH CORE Benefit Enrollment and Maintenance (834) Infrastructure Rule addresses the HIPAA-mandated Benefit Enrollment and Maintenance Transaction (X12 005010X220 834). The infrastructure requirements presented in this rule align with requirements in the CORE Claims Status (276/277), Eligibility & Benefits (270/271) and Payment & Remittance (835) Infrastructure Operating Rules, allowing industry to generalize and leverage existing investments to conform with the requirements.

The infrastructure rule applies to the conduct of the X12 005010220 Benefit Enrollment and Maintenance (834) transaction (hereafter referenced as X12 005010X220 834) and the X12 005010X231 Implementation Acknowledgment for Health Care Insurance (999) transaction and all associated errata (hereafter referred to as X12 v5010 999) and benefits industry in the conduct of the X12 v5010 834 through:

- Increased consistency and automation across entities
- Reduced administrative costs
- More efficient processes
- Reduced staff time for phone inquiries
- Enhanced revenue cycle management

The inclusion of this CORE Benefit Enrollment (834) Infrastructure Rule for the X12 v5010 834 facilitates access to the HIPAA-mandated administrative transactions, and encourages all HIPAA-covered entities, business associates, intermediaries, and vendors to build on and extend the infrastructure they have established for other business transactions.

1.1. Affordable Care Act Mandates

This CORE Rule is part of a set of rules that address requirements in Section 1104 of the Affordable Care Act (ACA). Section 1104 contains an industry mandate for the use of operating rules to support implementation of the HIPAA standards. Using successful, yet voluntary, national industry efforts as a guide, Section 1104 defines operating rules as “the necessary business rules and guidelines for the electronic exchange of information that are not defined by a standard or its implementation specifications.” As such, operating rules build upon existing healthcare transaction standards.

CAQH CORE is designated by the Secretary of HHS as the Operating Rule Authoring Entity for the HIPAA-mandated administrative transactions. CAQH CORE Operating Rules addressing eligibility & benefits, claim status and payment & remittance are federally mandated.

2. Issue to Be Addressed and Business Requirement Justification

Health plan issuers and trading partners use of multiple connectivity methods and file formats depending on their relationship; a fact confirmed during the initial development of this rule by the CORE Benefit Enrollment and Maintenance/Premium Payment Subgroup. Industry stakeholders who participated in this Subgroup indicated the proliferation of various file formats based on health plan issuer preference, which included cumbersome proprietary and manual processes.

By promoting consistent connectivity methods and the use of the HIPAA mandated transaction standard between health plan issuers and their trading partners, manual processes for benefit enrollment and maintenance can be reduced and electronic transaction usage increased. Defining acceptable use of response times, appropriate Batch and Real Time acknowledgements, system availability, and requiring entities that publish a Companion Guide do so in a common standard format to ensure that trading partners are informed of the nuances required for successful transaction processing will allow the industry to more easily adopt the X12 v5010 834 transaction.

In 2023, emerging considerations surrounding the development of a new CORE Benefit Enrollment and Maintenance (X12 005010X220 834) Data Content Rule justified updates to infrastructure requirements that support the secure and transparent exchange and use of socio-demographic information. These updates are primarily reflected in the inclusion of language in the transaction-specific companion guide indicating the collection, exchange, and use of potentially sensitive information.

Aligned with the suite of CORE Infrastructure Rules, the Benefit Enrollment and Maintenance Infrastructure Rule includes the following requirements:

- Real Time exchange of eligibility transactions within 20 seconds or less
- The consistent use of the X12 v5010 999[1] for both Real Time and Batch exchanges
- 90% system availability of a HIPAA-covered health plan's eligibility processing system components over a calendar week
- Use of the public internet for connectivity
- Use of a best practices Companion Guide template for format and flow of Companion Guides for entities that issue them

During the initial development of the CORE Benefit Enrollment (834) Infrastructure Rule, CORE used discussion, research, and straw poll results to determine which infrastructure requirements should be applied to the exchange of the X12 v5010 834 transaction. The table below lists the infrastructure requirements incorporated into this rule in §4.

Infrastructure Requirements for the X12N v5010X220 834 Transaction	
CORE Infrastructure Requirement Description	**Apply to CORE Benefit Enrollment Infrastructure Rule for the X12N v5010X220 834**
Processing Mode*	**Y**
Connectivity	**Y**
System Availability	**Y**
Real Time Processing Mode Response Time	**Y**
Batch Processing Mode Response Time	**Y**
Real Time Acknowledgements	**Y**
Batch Acknowledgements	**Y**
Companion Guide	**Y**
*__Note__: The CORE Benefit Enrollment and Maintenance (834) Infrastructure Rule vBE.1.0 explicitly clarifies processing mode requirements. In previous rule sets this requirement was not as explicit as needed resulting in questions from implementers. The CORE Connectivity Rule specifies the processing mode(s) that must be supported for each applicable transaction.	

This CORE Benefit Enrollment (834) Infrastructure Rule defines the specific requirements that HIPAA-covered health plans or their agents[2] must satisfy. As with all CORE Operating Rules, these requirements are intended as a base or minimum set of requirements, and it is expected that many entities will go beyond these requirements as they work towards the goal of administrative interoperability. This CORE Benefit Enrollment (834) Infrastructure Rule requires that HIPAA-covered

[1] The use of the ASC X12 TA1 Interchange Acknowledgement is not specifically addressed by the CORE Operating Rules. The A1 errata to Appendix C.1 of the ASC X12 999 provides industry guidance for the use of the TA1.

[2] One who agrees and is authorized to act on behalf of another, a principal, to legally bind an individual in particular business transactions with third parties pursuant to an agency relationship. Source: West's Encyclopedia of American Law, edition 2. Copyright 2008 The Gale Group, Inc. All rights reserved.

health plans or their agents make appropriate use of the standard acknowledgements, support the CORE Connectivity requirements, and use the CORE Companion Guide Template when publishing their X12 v5010 834 Companion Guide.

By applying these CORE infrastructure requirements to the conduct of the X12 v5010 834 transactions, this CORE Benefit Enrollment (834) Infrastructure Rule helps provide the information that is necessary to electronically process a benefit enrollment or maintenance submission uniformly and consistently and thus reduce the cost of today's proprietary transaction processes.

It is understood that applying the CORE infrastructure requirements to the exchange of the X12 v5010 834 transaction does not address the industry's transaction data content needs but rather establishes an electronic "highway".

3. Scope

3.1. What the Rule Applies To

This CORE Benefit Enrollment (834) Infrastructure Rule applies to the conduct of the HIPAA-mandated X12 v5010 834 transaction.

3.2. When the Rule Applies

This CORE Benefit Enrollment (834) Infrastructure Rule applies when a HIPAA-covered health plan or its agent uses, conducts, or processes the X12 v5010 834 transaction.

3.3. Outside the Scope of This Rule

This rule does not address any data content requirements of the X12 v5010 834 transaction. This CORE Benefit Enrollment (834) Infrastructure Rule applicable to benefit enrollment and maintenance is related to improving access to the transaction and **not to** addressing content requirements.

This rule does not address requirements for the use of the X12 v5010 834 transaction by the ACA Federal or state Health Information Exchanges (HIX).

3.4. Maintenance of This Rule

Should implementation of this rule be required via Federal regulation, any substantive updates to the rule (i.e., change to rule requirements) will be made in alignment with Federal processes for updating versions of the operating rules.

3.5. How the Rule Relates to Other CORE Rule Sets

The CORE Benefit Enrollment and Maintenance (834) Infrastructure Rule aligns with the HIPAA-mandated requirements in the Eligibility & Benefits (270/271) Infrastructure Rule, CORE Claim Status (276/277) Infrastructure Rule, and the CORE Payment & Remittance (835) Infrastructure Rule. Aligning requirements allow industry stakeholders to leverage their investment in conforming the mandated rules.

The CORE Benefit Enrollment (834) Infrastructure Rule further adds to the CORE infrastructure rule requirements by specifying the use of the X12 v5010 999 and the CORE infrastructure requirements when conducting the X12 v5010 834 transaction.

As with other CORE Operating Rules, general CORE policies also apply to CORE Benefit Enrollment Operating Rules and will be outlined in the CORE Benefit Enrollment Operating Rule Set.

This rule supports the CORE Guiding Principles that CORE Operating Rules will not be based on the least common denominator but rather will encourage feasible progress, and that CORE Operating

Rules are a floor and not a ceiling, i.e., entities can go beyond the CORE Benefit Enrollment Operating Rule Set.

3.6. Assumptions

A goal of this rule is to adhere to the principles of electronic data interchange (EDI) in assuring that transactions sent are accurately received and to facilitate correction of errors for electronically submitted benefit enrollment and maintenance transactions.

The following assumptions apply to this rule:

- A successful communication connection has been established.
- This rule is a component of the larger set of CORE Operating Rules; as such, all the CORE Guiding Principles apply to this rule and all other rules.
- This rule is not a comprehensive companion document addressing any content requirements of the X12 v5010 834 or the X12 v5010 999 transactions.
- Compliance with all CORE Operating Rules is a minimum requirement; any entity is free to offer more than what is required in the rule.

3.7. Abbreviations and Definitions Used in This Rule

Batch (Batch Mode, Batch Processing Mode)[3]: Batch Mode is when the initial (first) communications session is established and maintained open and active only for the time required to transfer a batch file of one or more transactions. A separate (second) communications session is later established and maintained open and active for the time required to acknowledge that the initial file was successfully received and/or to retrieve transaction responses.

Batch Mode/Batch Processing Mode is also considered to be an asynchronous processing mode, whereby the associated messages are chronologically and procedurally decoupled. In a request-response interaction, the client agent can process the response at some indeterminate point in the future when its existence is discovered. Mechanisms to implement this capability may include: polling, notification by receipt of another message, receipt of related responses (as when the request receiver "pushes" the corresponding responses back to the requestor), etc.

Batch Mode/Batch Processing Mode is from the perspective of both the request initiator and the request responder. If a Batch (asynchronous) request is sent via intermediaries, then such intermediaries may, or may not, use Batch Processing Mode to further process the request.

Processing Mode: Refers to when the payload of the connectivity message envelope is processed by the receiving system, i.e., in Real Time or in Batch mode.

Real Time (Real Time Mode, Real Time Processing Mode)[4]: Real Time Mode is when an entity is required to send a transaction and receive a related response within a single communications session, which is established and maintained open and active until the required response is received by the entity initiating that session.

Communication is complete when the session is closed.

Real Time Mode/Real Time Processing Mode is also considered to be a synchronous processing mode.

[3] Ibid

[4] See Phase I CAQH CORE Glossary: http://www.caqh.org/sites/default/files/core/phase-i/reference/PIGlossary.pdf.

Real Time Mode/Real Time Processing Mode is from the perspective of both the request initiator and the request responder.

Safe Harbor: A "Safe Harbor" is generally defined as a statutory or regulatory provision that provides protection from a penalty or liability.[5]

In many IT-related initiatives, a safe harbor describes a set of standards/guidelines that allow for an "adequate" level of assurance when business partners are transacting business electronically.

The CORE Connectivity Safe Harbor requires the implementation of the CAQH CORE Connectivity Rule so that application vendors, providers, and health plans (or other information sources) can be assured the CORE Connectivity Rule will be supported by any trading partner. All entities must demonstrate the ability to implement connectivity as described in the most recent published and CORE adopted version of the CORE Connectivity Rule (hereafter referred to as CORE Connectivity Rule)

Value-based Payment Terminology: To understand concepts, terms, and methodologies used to navigate and administer value-based payment programs, CORE developed the CORE Framework for Semantic Interoperability in Value-based Payments.[6] Definitions included in the Framework apply to the terminology used in this operating rule and others containing references to value-based payment models.

4. Rule Requirements

4.1. Benefit Enrollment and Maintenance Process Mode Requirements

A HIPAA-covered health plan or its agent must implement the server requirements for Batch Processing Mode for the X12 v5010 834 transaction as specified in the CORE Connectivity Rule. Optionally, a HIPAA-covered health plan or its agent may elect to implement the server requirements for Real Time Processing Mode for the X12 v5010 834 transaction as specified in the CORE Connectivity Rule.

A HIPAA-covered health plan or its agent may also elect to implement the client requirements as specified in the CORE Connectivity Rule in addition to implementing the server requirements. When a HIPAA-covered health plan or its agent elects to implement the client requirements as specified in the CORE Connectivity Rule it must comply with all requirements specified in Sections 4.2-4.9 and 5, including all respective Subsections.

The CORE Connectivity Rule Real Time Processing Mode requirements are applicable when Real Time Processing Mode is offered for these transactions. The CORE Connectivity Rule Batch Processing Mode requirements are applicable when Batch Processing Mode is offered for these transactions.

A HIPAA-covered health plan or its agent conducting the X12 v5010 834 transaction is required to conform to the processing mode requirements specified in this section regardless of any other connectivity modes and methods used between trading partners.

4.2. Benefit Enrollment Maintenance Connectivity Requirements

A HIPAA-covered entity or its agent must be able to support the CORE Connectivity Rule.

This connectivity rule addresses usage patterns for Real Time and Batch Processing Modes, the exchange of security identifiers, and communications-level errors and acknowledgements. It does not attempt to define the specific content of the message payload exchanges beyond declaring the formats

[5] Merriam-Webster's Dictionary of Law. Merriam-Webster, Inc., 28 May, 2007. <Dictionary.com http://dictionary.reference.com/browse/safeharbor>
[6] Once approved, a link to The Framework will be provided here.

that must be used between entities and that security information must be sent outside of the message envelope payload.

All HIPAA-covered entities must demonstrate the ability to implement connectivity as described in CORE Connectivity Rule. The CORE Connectivity Rule is designed to provide a "Safe Harbor" that application vendors, providers and health plans or other entities can be assured will be supported by any trading partner. Supported means that the entity is capable and ready at the time of the request by a trading partner to exchange data using the CORE Connectivity Rule. These requirements are not intended to require trading partners to remove existing connections that do not match the rule, nor are they intended to require that all trading partners must use this method for all new connections. CORE expects that in some technical circumstances, trading partners may agree to use different communication mechanism(s) and/or security requirements than those described by these requirements.

4.3. Benefit Enrollment and Maintenance System Availability

Many health plan issuers and their trading partners have a need to conduct benefit enrollment and maintenance transactions outside of the typical business day and business hours. Additionally, health plan issuers and their trading partners are now allocating staff resources to performing administrative and financial back-office activities on weekends and evenings. As a result, health plan issuers and their trading partners have a business need to be able to conduct enrollment and disenrollment transactions at any time.

On the other hand, health plan issuers have a business need to periodically take their benefit enrollment and maintenance processing and other systems offline in order to perform required system maintenance. This typically results in some systems not being available for timely processing of X12 v5010 834 and X12 v5010 999 transactions on certain nights and weekends. This rule requirement addresses these conflicting needs.

4.3.1. System Availability Requirements

4.3.1.1. *Weekly System Availability Requirements*

System availability must be no less than 90 percent per calendar week for both Real Time and Batch Processing Modes. System is defined as all necessary components required to process an X12 v5010 837 Claim transaction, an X12 v5010 999 transaction, and an X12 v5010 277CA transaction. Calendar week is defined as 12:01 a.m. Sunday to 12:00 a.m. the following Sunday. This will allow for a HIPAA-covered health plan or its agent to schedule system updates to take place within a maximum of 17 hours per calendar week for regularly scheduled downtime.

4.3.1.2. *Quarterly System Availability Requirement*

A HIPAA-covered health plan or its agent may choose to use an additional 24 hours of scheduled system downtime per calendar quarter. System is defined as all necessary components required to process a 5010X217 278 Request and Response and a 5010X231 999 transaction. This will allow a HIPAA-covered health plan or its agent to schedule additional downtime for substantive system migration. This additional allowance in a system downtime is in excess of the allowable weekly system downtime specified in Section 4.3.1.1.

4.3.2. Reporting Requirements

4.3.2.1. *Scheduled Downtime*

A HIPAA-covered health plan or its agent must publish its regularly scheduled system downtime in an appropriate manner (e.g., on websites or in Companion Guides) such that the HIPAA-covered health plan's trading partners can determine the health plan's system availability so that staffing levels can be effectively managed.

4.3.2.2. *Non-Routine Downtime*

For non-routine downtime (e.g., system upgrade), a HIPAA-covered health plan or its agent must publish the schedule of non-routine downtime at least one week in advance.

4.3.2.3. *Unscheduled Downtime*

For unscheduled/emergency downtime (e.g., system crash), a HIPAA-covered health plan or its agent are required to provide information within one hour of realizing downtime will be needed.

4.3.2.4. *No Response Required*

No response is required during scheduled, non-routine, or unscheduled downtime(s).

4.3.2.5. *Holiday Schedule*

Each HIPAA-covered health plan or its agent will establish its own holiday schedule and publish it in accordance with the rule requirements above.

4.4. Benefit Enrollment and Maintenance Real Time Processing Mode Response Time Requirements

Maximum response time for the receipt of an X12 v5010 999 transaction from the time of submission of an X12 v5010 834 must be 20 seconds when processing in Real Time Processing Mode.

Each HIPAA-covered entity or its agent must support this *maximum* response time requirement to ensure that at least 90 percent of all required responses are returned within the specified maximum response time as measured within a calendar month.

Each HIPAA-covered entity or its agent must capture, log, audit, match, and report the date (YYYYMMDD), time (HHMMSS) and control numbers from its own internal systems and the corresponding data received from its trading partners.

The recommended maximum response time between each participant in the transaction routing path is 4 seconds or less per hop as long as the 20-second total roundtrip *maximum* requirement is met.

Each HIPAA-covered entity or its agent must support these response time requirements in this section and other CORE Operating Rules regardless of the connectivity mode and methods used between trading partners.

The goal of this requirement is to adhere to the principles of EDI in assuring that transactions sent are accurately received and to facilitate correction of errors in Functional Groups of X12 v5010 834 transactions.

This requirement assumes a successful communication connection has been established.

4.5. Benefit Enrollment and Maintenance Real Time Processing Mode Acknowledgment Requirements

A HIPAA-covered health plan or its agent must return an X12 v5010 999 transaction to indicate that a Functional Group(s) or Transaction Set(s) is accepted, accepted with errors, or rejected and must report each error detected to the most specific level of detail supported by the X12 v5010 999 transaction.

4.6. Benefit Enrollment and Maintenance Batch Processing Mode Response Time Requirements

Maximum response time for availability of X12 v5010 999 transaction when processing an X12 v5010 834 transaction submitted in Batch Processing Mode by 9:00 pm Eastern Time of a business day by

a health plan sponsor or its agent must be no later than 7:00 am Eastern Time the third business day following submission.

A business day consists of the 24 hours commencing with 12:00 am (Midnight or 0000 hours) of each designated day through 11:59 pm (2359 hours) of that same designated day. The actual calendar day(s) constituting business days are defined by and at the discretion of each HIPAA-covered health plan or its agent.

Each HIPAA-covered entity or its agent must support this *maximum* response time requirement to ensure that at least 90 percent of all required responses are returned within the specified maximum response time as measured within a calendar month.

Each HIPAA-covered entity or its agent must capture, log, audit, match, and report the date (YYYYMMDD), time (HHMMSS) and control numbers from its own internal systems and the corresponding data received from its trading partners.

Each HIPAA-covered entity or its agent must support these response time requirements in this section and other CORE Operating Rules regardless of the connectivity mode and methods used between trading partners.

The goal of this requirement is to adhere to the principles of EDI in assuring that transactions sent are accurately received and to facilitate correction of errors in Functional Groups of X12 v5010 834 transactions.

This requirement assumes a successful communication connection has been established.

4.7. Benefit Enrollment and Maintenance Batch Processing Mode Acknowledgement Requirements

A HIPAA-covered health plan or its agent must return an X12 v5010 999 transaction for each Functional Group of X12 v5010 834 transactions:

- To indicate that the Functional Group(s) was either accepted, accepted with errors, or rejected

And

- To specify for each included X12 v5010 834 that the transaction set was either accepted, accepted with errors, or rejected.

The HIPAA-covered health plan or its agent must not return the X12 v5010 999 transaction during the initial communications session in which the X12 v5010 834 transaction is submitted.

When a Functional Group of X12 v5010 834 of transactions is either accepted with errors or rejected, the X12 v5010 999 transaction must report each error detected to the most specific level of detail supported by the X12 v5010 999 transaction.

4.8. Elapsed Time for Enrollment System Processing of Received Benefit Enrollment Data

A HIPAA-covered health plan or its agent must process the benefit enrollment and maintenance data by its enrollment application system within five business days following the successful receipt and validation of the data. In the context of this rule

- *Successful Receipt* means that the X12 v5010 834 transaction has not been rejected by the health plan or its agent's EDI management system

And

- *Validation* means that any data inconsistencies detected in an accepted X12 v5010 834 transaction which would prevent accurate posting of that data to the health plan or its agent's internal enrollment application system have been resolved.

4.9. Benefit Enrollment and Maintenance Companion Guide

A HIPAA-covered health plan or its agent has the option of creating a "Companion Guide" that describes the specifics of how it will implement the HIPAA transactions. The Companion Guide is in addition to and supplements the X12 TR3 Implementation Guide.

Currently HIPAA-covered health plans or their agents have independently created Companion Guides that vary in format and structure. Such variance can be confusing to trading partners who must review numerous Companion Guides along with the X12 TR3 Implementation Guides. To address this issue, CORE developed the CORE Companion Guide Template for health plans or their agents. Using this template, health plans or their agents can ensure that the structure of their Companion Guide is similar to other health plan's documents, making it easier for its trading partners to find information quickly as they consult each health plan's document on these important industry EDI transactions.

Developed with input from multiple health plans, system vendors, provider representatives, and health care/HIPAA industry experts, this template organizes information into several simple sections – General Information (Sections 1-9) and Transaction-Specific Information (Section 10) – accompanied by an appendix. Note that the Companion Guide template is presented in the form of an example from the viewpoint of a fictitious Acme Health Plan.

Although CORE believes that a standard template/common structure is desirable, it recognizes that different health plans may have different requirements. The CORE Companion Guide template gives health plans the flexibility to tailor the document to meet their particular needs.

4.9.1. Requirements to Follow the Format and Flow of the CORE Companion Guide Template for HIPAA Transactions

If a HIPAA-covered entity or its agent publishes a Companion Guide covering the X12 v5010 834 transaction, the Companion Guide must follow the format/flow as defined in the CORE Companion Guide Template for HIPAA Transactions (CORE Companion Guide Template available HERE).

NOTE: This rule does not require any entity to modify any other existing Companion Guides that cover other HIPAA-mandated transaction implementation guides.

4.9.2. Requirements to Include Language Disclosing Collection, Exchange, Processing, and Use of Socio-Demographic Information Collected at Enrollment or Renewal.

Per requirements in the CORE Benefit Enrollment and Maintenance Data Content Operating Rule, a health plan or its agent must create language disclosing the purpose and use associated with the collection, exchange, and processing of socio-demographic information at member enrollment or renewal. Requirements in the CORE Benefit Enrollment and Maintenance Data Content Operating Rule require this information be presented to members at the point of enrollment or renewal. Please reference that rule for detailed requirements.

To support the purposes of transparency and consent to disclosure, if a health plan or its agent publishes a Companion Guide covering the X12 v5010X220 834 transaction, the generated disclosure language must be included in the Companion Guide Appendix and appropriately appear in the table of contents to allow for ease of access.

5. Conformance Requirements

Conformance with this rule is considered achieved when all the required detailed step-by-step test scripts specified in the Benefit Enrollment and Maintenance CORE Certification Test Suite are successfully passed.

6. Appendix

6.1. Appendix 1: Reference

- X12 005010X231 Implementation Acknowledgement for Health Care Insurance (999) Technical Report Type 3 and associated errata
- X12 005010X220 Benefit Enrollment and Maintenance (834) Technical Report Type 3 Implementation Guide and associated errata