
Migrating DoD Supply/Logistics AISs to a Higher Version of the ANSI X12 EDI Standard

IN RESPONSE TO TASKING AND QUESTIONS FROM DC PIPP / AUGUST 8, 2012

BACKGROUND / EXECUTIVE SUMMARY

Mr. D.C. Pipp, Director, DLA Logistics Management Standards Office, is considering an effort to revitalize the DoD project to migrate away from the use of legacy 80-column card data exchange format (often referred to as MILS) and to the use the Defense Logistics Management System (DLMS) data exchange format. The DLMS format is based on the ANSI X12 EDI standard and current DLMS Supplements (the guidelines that define the business rules and data format to exchange the data) predominately use X12 version/release 4010, which ANSI X12 published in 1997.

Mr. Pipp asked if he should also advocate migrating to a more current version of the X12 standard.

In answering the specific questions asked by Mr. Pipp in his initial tasking this paper outlines the steps necessary to migrate to a higher version/release of the X12 standard, notes advantages and disadvantages of migrating, and attempts to delineate the cost estimates (both financially and in terms of work/manpower needed).

While there are some potential advantages (see Question 10, below) to DoD of migrating all of the DoD logistics systems to ANSI ASC X12 version/release 6040, the process could take up to ten years and cost over \$10 million.

Overall we believe that the disadvantages (see Question 11, below) of migrating outweigh the advantages, and we recommend that DoD remain at ANSI X12 version/release 4010.

RESPONSES TO QUESTIONS

Q1: What is the most recent version of X12?

A1: The most recently published X12 version/release is 6040. In January, 2013, X12 will publish version/release 6050.

Q2: How much would it cost for each system PM to purchase the latest X12 standard? (across DOD)

A2: This is a very difficult question to answer, especially looking at all systems across the DoD enterprise as whole.

Systems make use of several different paradigms for EDI translation:

Systems Using COTS Translators: The first group of system comprises those that use a commercial off the shelf (COTS) EDI translator. Consensus within our office is that only a few standalone COTS translators are in use within DoD, but without issuing a data call to all of the Components it would be impossible to put specify an exact number. The price of updating those translators to the current version would depend on a number of factors:

- Which COTS EDI translator does the system use? The PM would need to buy the upgrade from its software vendor. Examples of vendors that provide EDI Translators include Informatica, Altova, EDIFECS, Foresight, IBM (Websphere), Sterling (GENTRAN), SAP, and Oracle—many of which may be used by DoD Components for EDI Translation.
- What are the terms of the PM’s purchase/support contract? The terms of some annual maintenance contracts may include the update to each new X12 version/release when it is published by X12; others may not.

As part of the research conducted for this paper I discussed what the translator upgrade costs might be with several of the X12 subcommittee chairs including Lisa Miller, chair of X12C and CIO of XEO Health, a healthcare company that has recently completed the Congressionally-mandated Health Insurance Portability and Accountability Act (HIPAA) migration from 4010 to 5010 for more than a dozen clients. There was general agreement that the price range to purchase an upgrade package for a COTS translator from the vendor would be in the \$50,000-\$250,000 range per system—again, dependent upon the contract between the PM and the vendor.

In addition to the purchase of the upgrade, there would be additional costs to install and configure the package (which may also be covered under the PM’s maintenance contract) and make the programming changes on the back and front ends of the systems to interface the upgrade into the systems.

Systems Using “Homegrown” Translators: Some systems have hard-coded their EDI transactions into their proprietary communications packages. Again, we would need to identify which and how many systems use this approach—citing a number without issuing a data call to the Components to obtain a figure for the number of systems that hard code EDI format into their communication subsystems would be complete guesswork.

For these systems, there would be no cost to purchase an update since they do not use a COTS translator. They would presumably use our updated DLMS Supplements to update their proprietary code that produces the EDI-formatted data files; these systems would only incur the costs to pay their support staff to update the proprietary software.

Systems Using DLA Transaction Services as a Translator: Some DoD systems use DLA Transaction Services' Defense Automatic Addressing System (DAAS) as their EDI translator, and send user defined files (UDFs) to DAAS for translation into X12 format. Although DAAS would incur upgrade costs for its COTS translators, the source systems themselves would not incur a direct cost to upgrade software to a new version/release of X12. These systems would, however, incur the costs to modify their extract, translate and load (ETL) software routines to make necessary the changes to the UDF file they provide to DAAS.

Q3: How long would it take for DOD to transition?

A3: Again, this is a difficult question to answer, especially if we consider the entire DoD enterprise. The Defense Transportation System (DTS) completed its USTRANSCOM-led migration from version 3050 to 4010 (ahead of the Y2K change) in slightly over seven years. At that time EDI usage in DoD was in its infancy—only about half-dozen systems were involved in the migration, and only about a half-dozen transaction sets had been implemented and needed to be migrated.

Such a migration today would take longer because DoD conducts more different types of business using EDI, which results in more different transaction sets being used. Our directory of DLMS Supplements, for example, includes more than 60 different supplements. The number of systems involved is also much greater today. As a result, planning and managing the transition, and testing among all of the trading partners would take longer. A complete DoD enterprise-wide migration to a new version/release of X12 could easily take ten years to complete.

Part of the difficulty is that it is almost impossible for different trading partners to use different version/releases interoperably, so all of the systems would have to “throw the switch” to the new version/release at the same time. That means every system would have to wait for the slowest implementer to be ready before making the change.

DoD's commercial industry trading partners would also need to upgrade, so transportation carriers, financial institutions, vendors, etc., would all need to be able to send and receive the upgraded versions of our EDI documents, and we would need to test with all of our commercial partners before implementation in production could take place.

Enclosure 1 is a copy of a draft document that LMI published in 1997 to guide the DTEB (at that time known as the DTEDI) committee through the process of an X12 migration. It lays out in detail the eleven steps necessary to develop and implement the use of an upgraded EDI Implementation Convention (the equivalent of our DLMS Supplements). (It's an interesting aside to note that in 1997 DLMSO, as technical secretariat to the DTEDI committee, had the responsibility to distribute the DTEDI ICs to the members—see steps 3 and 6.)

As laid out in Enclosure 1, we would need to migrate all of our DLMS Supplements to the new version. Performing the migration analysis of the new version's transaction sets, then developing the PDCs and getting component approval of the ADCs for each of our DSs would take considerable time—I would estimate well over a year under the best of circumstances.

Enclosure 2 is a copy of the final report that LMI developed as part of a tasking to migrate flat file renderings (UDFs) of healthcare financial transactions for the Healthcare Integrated General Ledger Accounting System (HIGLAS) from 4010 to 5010. It provides analysis of changes to the EDI standard that impacted the data formats used in the HIGLAS transactions.

The HIGLAS report documents numerous changes in data attributes such as minimum and maximum data element length, the number of repeats of a data element, datatype changes, new code values added and old code values deleted, etc. between version/release 4010 and 5010.

We should expect to find similar, but more numerous, changes to our DLMS Supplement would be required were we to migrate from 4010 to 6040 because of the greater difference in version numbers.

The HIGLAS report also provides insight into the amount of work that DLA Logistics Management Standards Office would have to do to migrate all of the existing DLMS Supplements from their current versions up to 6040.

Q4: What are the challenges associated with upgrading all logistics AIS' to a new X12 version?

A4: The biggest challenge to upgrading all AISs across the DoD enterprise to a new version/release of the X12 standard is demonstrating clearly to the system PMs that the migration offers *significant functional business benefits* to all DoD systems and customers, and that migrating all the systems at the same time offers benefits to the enterprise. .

As discussed elsewhere in this paper (see Q5/A5, below and Appendix 1), the costs of migrating will be substantial. In our current budget-constrained financial

environment PMs already find it difficult to get their Configuration Control Boards (CCBs) to approve funding they request for their systems and programs. Unless PMs clearly understand the benefits of migration, prioritize it above other improvements requiring CCB funding, and clearly communicate and vigorously defend the migration benefits before their CCBs, systems will not have funding available to make the necessary changes required to migrate.

If funding is available, the systems have the expertise and experience necessary to develop a migration plan, develop new DSs, test them with trading partners, and implement them into production.

Q5: How much would it cost?

A5: As discussed above, placing an accurate dollar value estimate on such a migration is at best risky, but a figure in the range of \$10-15 million dollars¹ is not out of reason when you take into consideration cost of the software upgrades, and the man-hours needed to plan and manage the migration, develop all of the needed DLMS Supplements, interface the new EDI transactions with front and back end systems, and complete testing among all trading partners.

Q6: What would be gained by acquiring and implementing the newest version? Emphasis on functional enhancements that would become available that are not currently available in 4010/4030.

A6: The clearest advantage of migrating to the current version/release of the X12 standard would be the opportunity for us to eliminate the use of migration and borrowed codes in the DLMS Supplements.

This benefit does not come without disadvantages, however:

- A complete review and analysis of all the DLMS Supplements would be required to identify all instances of migration and borrowed code currently in the DLMS. We would need to develop and implement ADCs to change all of those existing codes. Components (and our commercial trading partners) would need to update their systems to use the new code values.
- As soon as a new business requirement requires the use of a new X12 code, we would be right back in the position of having to use migration and borrowed codes.

The newer version/releases of the X12 standard published since version/release 4010 contain a number of new features and functionality, including:

¹ See Appendix 1 for assumptions and ROM cost estimates

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- new transaction sets added to the standard,
 - new segments added to existing transaction sets,
 - new elements added to segments, and
 - new functionalities (e.g., repeating elements within a data segment).

In general, these new feature do not directly support any currently identified business requirements within the DLMS, and although we might be able to utilize some of the feature in future DLMS enhancements, there is no business requirement to use most of them at the current time.

Some of the enhancements that might be useful today include, for example, the new ST03 element in the ST segment. This element allows the sender of a transaction to specify which Implementation Guide (our DLMS Supplement) was used to generate the EDI document. For transaction sets where the DLMS defines multiple uses for the same transaction set (e.g., the 856 (WAWF), the 856R Shipment Status Materiel Returns (supported in both 4010 and 4030), and the 856S Shipment Status, among other 856s), use of the ST03 would clearly disambiguate which DS was used to generate the EDI document and would do so in the manner intended by and completely compliant with the X12 standard.

The new TS 999 acknowledgement allows receivers to reject individual line items (rather than rejecting an entire interchange as required in the 997 functionality). This enhancement might also provide some benefit to the DoD enterprise, but an in depth analysis would be necessary to identify under what conditions and for which transactions those benefits might apply.

Q7: Does the “newest version” equate to the best version?

A7: Definitely not. If this were the case most commercial industry would use the newest version of X12. The best version is the one that meets your functional business requirements at the lowest cost.

I asked an associate from X12, who is a vice president at a commercial Value Added Network (VAN) if he could provide a report showing the version/release of the transaction sets that are processed through his VAN. To protect his clients’ privacy, he asked that I not name the VAN that provided these statistics, but it is a top five commercial VAN that handles in excess of 200 million X12 EDI transactions per year.

These statistics on version use show that by a huge majority most EDI transactions processed by this VAN use version/release 4010. Unless there are functional business requirements that are not being met by the currently used version/release, there is no business case for migration to a higher standard.

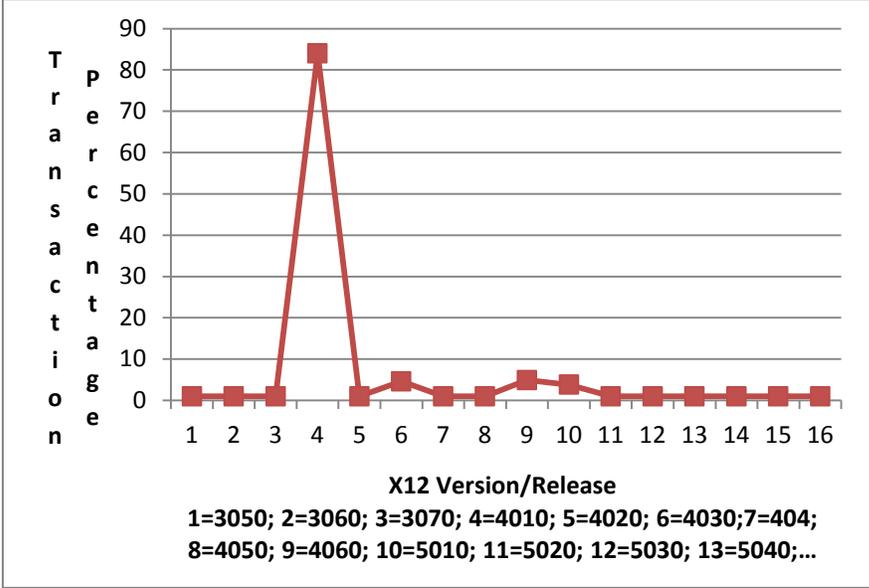
Table 1 summarizes the percentage breakdown of the transactions processed by X12 version/release.

Figure 1 provides a graphical representation of those percentages:

Table 1: Percentage of EDI Transactions by X12 Version/Release Processed at a Top Five Commercial VAN

3050	<1%	4010	84%	5010	3.8%	6010	<1%
3060	<1%	4020	<1%	5020	<1%	6020	<1%
3070	<1%	4030	4.6%	5030	1%		
		4040	<1%	5040	<1%		
		4050	<1%	5050	<1%		
		4060	4.9%				

Figure 1: Percentage of EDI Transactions by X12 Version/Release Processed at a Top Five Commercial VAN



ASC X12 version/release 4010 (data point 4 in Figure 1), which was published in 1997, required the use of 8-character dates (CCYYMMDD) in X12 EDI. The new date format’s ability to avoid any issues related to the “Y2K Bug” provided a strong functional business requirement for many users to migrate to the new standard.

The only other ground-swell business need occurred when Congress mandated that healthcare providers use version Release 5010 (data point 10 in Figure 1) for HIPAA transactions beginning in January 2012.

Q8: Are intermediary versions (5030, 6010) cheaper yet facilitates the same functionality?

A8: Costs should be the same regardless of the version/release to which a system migrates (dependent on individual systems' maintenance contracts).

One of the major advantages to the logistics community of such a migration would be elimination of the need for migration codes in the supplements. Therefore, if a migration were to take place, it would be advantageous to migrate to the highest version available (rather than an intermediate version/release), which would contain as many of the new codes as possible.

Q9: For those ERPs that claim to be moving towards DLMS compliance, what version are they using?

A9: The only way to verify this with complete certainty would be to issue a data call to the ERP PMs. However, because the great majority of both the DLMS Supplements and the USTRANSCOM DTEB Implementation Conventions use 4010, it is reasonable to assume that the ERPs are moving toward version/release 4010.

Q10: What are some of the tangible benefits of higher versions?

A10: The main advantage of migrating to most recently published version/release of the X12 standard would be the ability to eliminate the use of migration codes.

When the supply community needs a new code in the version of a transaction that we are using (4010, for example) and no suitable code is available for use in the X12 standard, we will submit a Code Maintenance Request (CMR) to X12 to add that new code to the next version/release of the X12 standard (6050, for example). We then add that 6050 code (which is referred to as a migration code) to our 4010 DLMS Supplement following normal PDC/ADC procedures, and use it in the 4010 transactions.

Although the use of migration codes is a commonly-accepted business practice, it is technically a violation of the X12 standard, and the transactions that use migration codes are technically non-compliant with the X12 standard.

Migrating to the most recently published version/release of X12 would allow us to update all of our DLMS Supplements to eliminate the use the migration codes—in the most recent version/release all of those codes would be strictly compliant with the X12 standard. It should be noted, however, that as soon as the need for new code is identified and implemented, we would again be back to using a migration code.

Although we have not identified specific business requirements that would take advantage of them, there are numerous new features implemented in the more recent X12 version/releases. Many of these enhancements are documented in Enclosure 2; two of them are listed as examples.

A new element in the ST segment, ST03, enables the sender to identify the specific implementation guide (our DLMS Supplement) used in generating the EDI document. This functionality could be useful to distinguish among different variations of the same X12 transaction set—for example, to distinguish among the 856 (WAWF), the DLMS 856S, and the DTEB 856A.

A new acknowledgement transaction, the 999, enables rejection of a single line item within a transaction rather than rejecting the entire interchange.

Q11: What are the negative consequences of NOT moving to the higher versions

A11: Because the cost and level of effort required across DoD to migrate to a new version/release of X12 is so significant, we have not conducted a major migration since most of the DLMS Supplements were initially published in version/release 4010. When faced with new business requirements, (such as the need for a new code) that might have been resolved by migrating to a new version/release, we have developed work-around procedures to implement the needed functionality and added those work-arounds to our DLMs Supplements.

The members of the Supply community (and its extended business partner community) have embraced these work-around measures; they are in use, and effective.

The primary negative consequence of using many of those work-arounds in the DLMS Supplements is that the data conveyed in those exchanges are not completely compliant with the ASC X12 standard.

From a functional perspective, the bottom line is that there are very few, if any, significant negative consequences of not moving to a higher version.

Q12: Are there recent studies done by LMI or others regarding challenges of upgrading to higher X12 versions?

A12: Yes, see Enclosure 2 for an LMI-authored paper documenting the recent 4010 to 5010 HIPAA migration, and Enclosure 1 for the LMI-authored, USTRANSCOM-sponsored report on the DTS migration from 3050 to 4010 that took place in 1997.

Q13: Provide some examples of who has done a major X12 version upgrade. Why did they do it? How long did it take? ROM on costs? Challenges?

A13: The Healthcare industry recently (January 2012) completed a migration from version/release 4010 to 5010 for its HIPAA transactions.

Why Upgrade? The Healthcare industry had identified new business requirements and submitted changes to X12 via the standard X12 data maintenance (DM) and CMR processes to include those changes in the newer version of X12.

Some examples of the required changes include:

- changes in the minimum or maximum field length of data elements,
- changes in the usage attribute (required/conditional/optional) of data elements,
- changes to medical care (e.g., codes needed for new diagnoses, treatments, pharmaceuticals).

Once the maintenance requests implementing these features were approved and published in version/release 5010, the U.S. Congress mandated 5010 use in all HIPAA transactions.

How Long Did It Take? The original HIPAA legislation was published in July 1996; an initial required adoption date for version/release 4010 was October 2003. Due to “confusion” among adopters, the Department of Health and Human Services extended that deadline for one year—so initial implementation took approximately nine years.

The migration to 5010 was initially proposed in 2007, with a required adoption date of January 2012—so the migration took approximately 5 years.

How Much Did It Cost? I discussed the HIPAA migration with Lisa Miller, who is the chair of X12C and the chief information officer (CIO) of XEO Health, a Healthcare company that provides a complete range of IT services to Healthcare clients, and managed the HIPAA 5010 migrations for many of its clients. Due to the sensitivity of financial information, Ms. Miller was unable to provide exact migration costs, but said that a general range for a customer to migrate from version/release 4010 to 5010 was \$10,000 to \$1,000,000.

What Were The Challenges? Ms. Miller indicated a number of challenges that had to be overcome to complete the successful migrations—the most difficult (and often overlooked) being a complete analysis of the changes to the transaction sets, and a complete re-writing of the implementation guides (equivalent to our DLMS Supplements) in the new 5010 version/release.

Other challenges that she noted included:

- documenting and cross-referencing a complete change log for all the transactions sets,
- identifying all the trading partners for each client, and communicating the changes to each of them,
- assisting the trading partners to correctly implement the HIPAA implementation guides, and
- testing with all trading partners.

APPENDIX 1: ASSUMPTIONS AND ESTIMATED ROM COST CALCULATIONS

Assumptions: Six systems use COTS translators; nine systems use proprietary “homegrown” translators; each system will implement 15 of the possible 60 DLMS supplements; average hourly salary is \$150/hour; six components will review and approve the ADCs that implement the new DLMS Supplements.

COTS Translators (six systems)

Upgrade cost: \$50,000/system Total Cost \$300,000

Hard-coded translators (nine systems)

Upgrade cost: \$145,000/system (6 man-months labor) Total Cost \$1,300,000

Coordination with External Trading partners (all 15 systems)

Labor cost: \$25,000/system (4 man-weeks labor) Total Cost \$360,000

Testing

Regression Testing: \$90,000/system (1 man-week labor for 15 DLMS Supplements)	Total for 15 systems	\$1,350,000
System Testing: \$90,000/system (1 man-week labor for 15 DLMS Supplements)	Total for 15 systems	\$1,350,000
Integration Testing (1 man-week labor for 60 DLMS Supplements for 15 systems)	Total for 15 systems	\$5,400,000

DLMS Supplement Development

J6212 time for migration analysis and Supplement development		
(2 man-weeks per Supplement for 60 Supplements):		\$720,000
PRC Review/Approval (per component):	\$720,000	
(20 man-hours per supplement for 60 Supplements)		
Total cost for six Components:		\$1,080,000

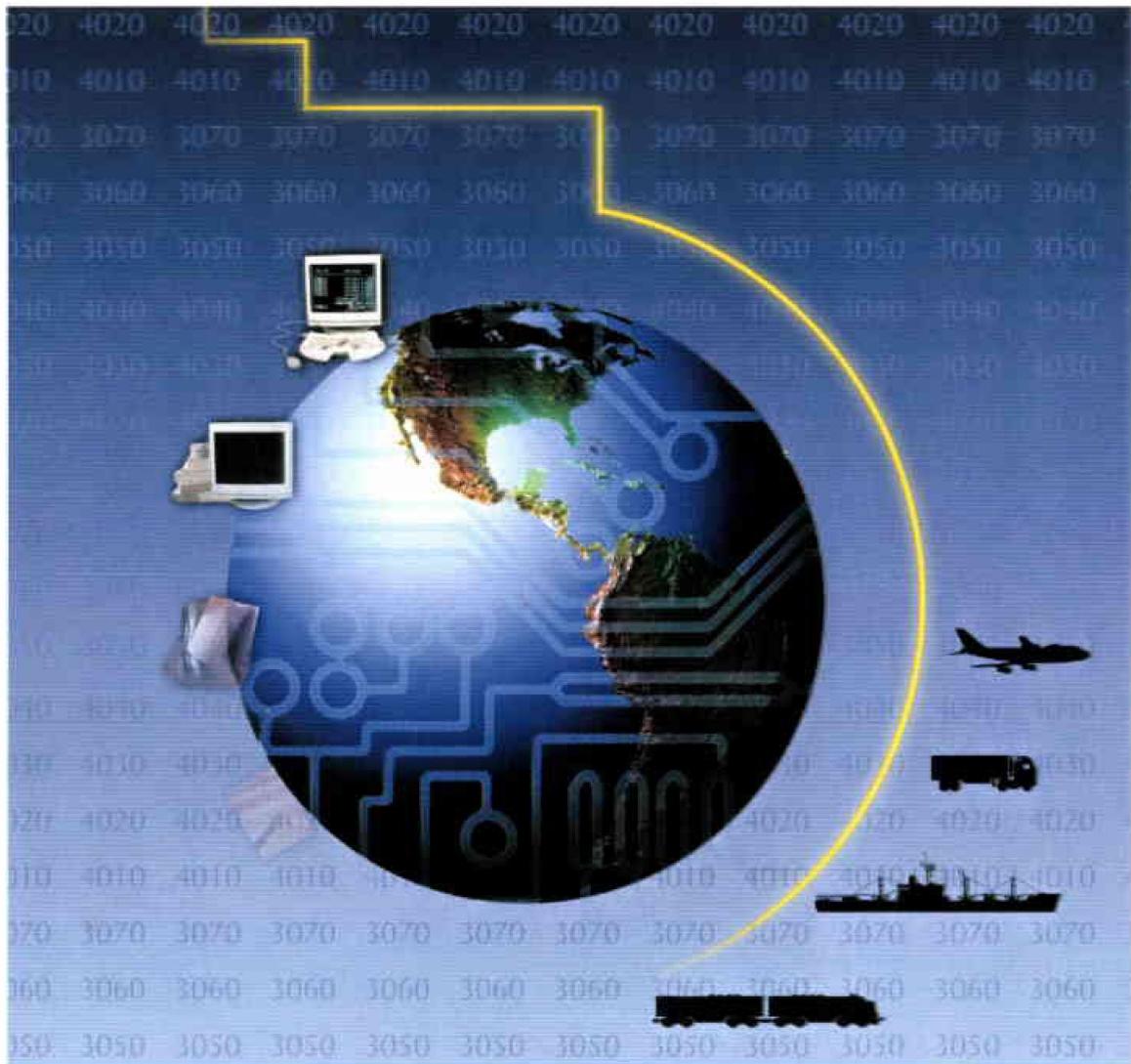
Total Supplement Development Cost \$1,800,000

Estimated Total Migration Cost \$11,860,000

X12 Version Migration

A Procedure for Defense Transportation EDI Trading Partners

TR801T1



X12 Version Migration

A Procedure for Defense Transportation EDI Trading Partners

TR801T1

August 1998

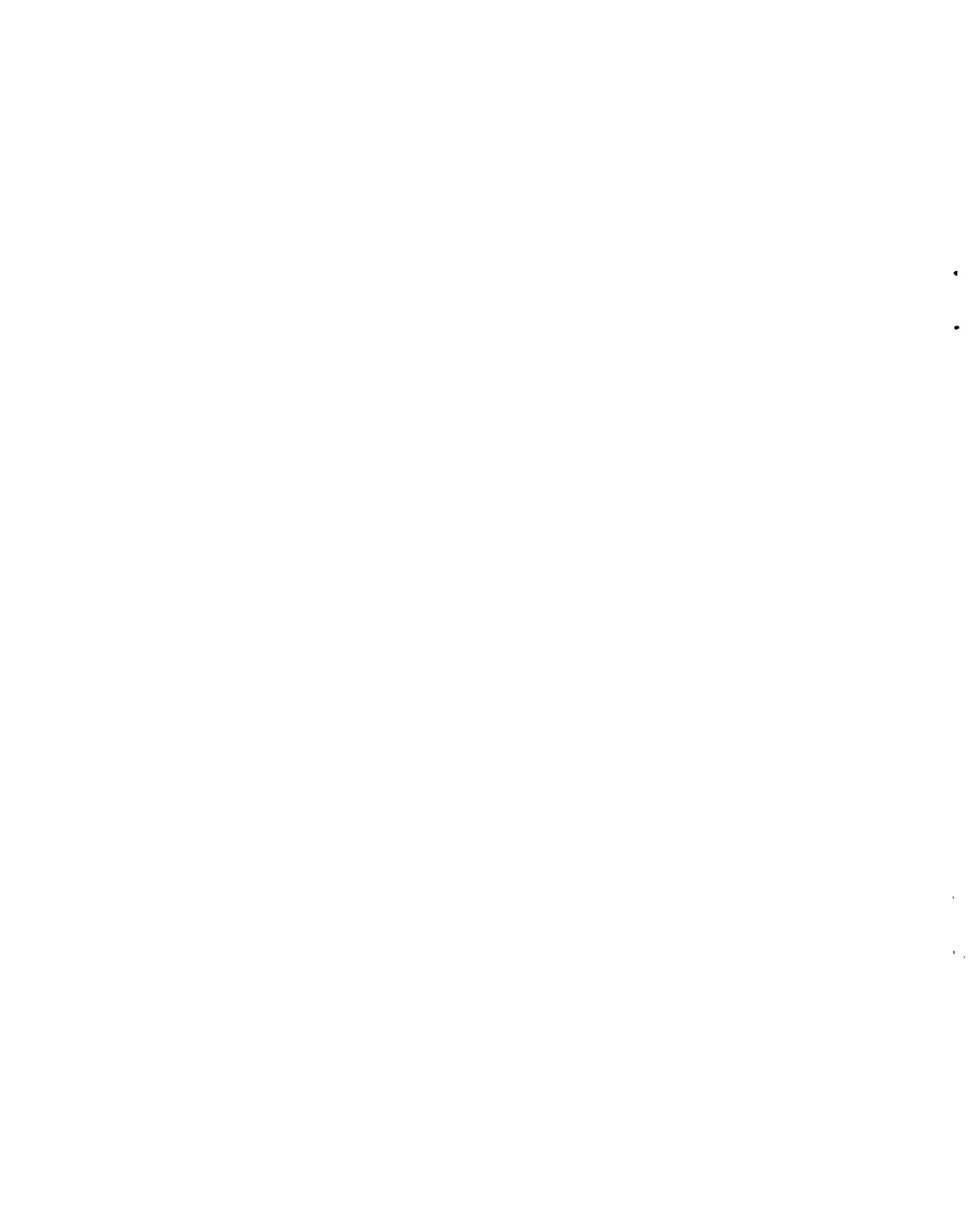
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Contents

Chapter 1 Introduction	1-1
WHAT IS VERSION MIGRATION?	1-1
WHY DEVELOP MIGRATION PROCEDURES?.....	1-1
HOW IS THIS REPORT ORGANIZED?.....	1-1
Chapter 2 Justify Migration	2-1
OLD STANDARDS CANNOT SUPPORT DATA REQUIREMENT	2-1
NEW POLICY REQUIRES MIGRATION	2-1
Chapter 3 Assess and Approve Migration.....	3-1
ASSESS NEW X12 STANDARDS	3-1
IDENTIFY SIZE OF THE MIGRATION	3-2
MIGRATION RECOMMENDATION.....	3-2
GAIN DTEDI APPROVAL OF MIGRATION	3-3
Chapter 4 Prepare for Migration.....	4-1
Chapter 5 Implement Migration Version.....	5-1
UPGRADE TRADING PARTNER SYSTEMS.....	5-1
PERFORM INTERNAL SYSTEM TESTS.....	5-1
PERFORM SYSTEM INTEGRATION TEST	5-1
DECLARE PRODUCTION DATE	5-2
Appendix A Implementation Convention Publication and Data Maintenance	
Appendix B System Integration Test	
Appendix C Abbreviations	



Chapter 1

Introduction

This report presents procedures that identify how Defense transportation electronic data interchange (DTEDI) trading partners implement a new version of the Accredited Standards Committee (ASC) X12 electronic data interchange (EDI) standard. To successfully prepare and implement an EDI migration, trading partners need to justify migration, assess and approve the migration, prepare for migration, and implement the migration version in a production environment. By following this procedure, trading partners can ensure a smooth implementation.

WHAT IS VERSION MIGRATION?

Upgrading EDI-capable computer systems to a new version of an X12 EDI standard is commonly called "migration." It calls on trading partners to update EDI translation software, user-defined file formats, and application database systems. However, migration is not only a technical accomplishment. In addition to upgrading systems, migration calls on trading partners to implement new business requirements. For example, in the near future, the DTEDI community will implement a new business practice for managing and exchanging line of accounting information. As the community migrates to a new version of the X12 standard, it will need to migrate to a new business practice.

WHY DEVELOP MIGRATION PROCEDURES?

EDI translation software allows a nearly transparent migration between versions of the X12 standards. However, the Defense experience with a 3050 migration has been arduous and has taken over a year to implement. Consequently, this procedure was developed to enable a structured migration.

HOW IS THIS REPORT ORGANIZED?

This report establishes a procedure for future migrations and addresses key topics in the following four chapters:

- ◆ Chapter 2 describes business and technical conditions that dictate a requirement to migrate.
- ◆ Chapter 3 explains how the data maintenance (DM) task group evaluates a potential migration, recommends the migration, and gains DTEDI Committee approval.

- ◆ Chapter 4 describes the key steps DTEDI trading partners take to prepare for migration.

- ◆ Chapter 5 outlines the final implementation process.

In addition, Appendix A identifies the procedures for implementation convention (IC) publication and DM during migration. Appendix B describes the system integration test (SIT) for certifying trading partners' readiness for implementation. Appendix C lists abbreviations used in this report.

Chapter 2

Justify Migration

The publication of a new version of an ASC X12 standard version presents an opportunity, but not the requirement, for a business community to migrate. Two conditions require a migration: old standards cannot support current data requirements and a policy external to the DTEDI community requires its compliance.

OLD STANDARDS CANNOT SUPPORT DATA REQUIREMENT

The X12 Committee revises its standards in response to the business demands of a very large EDI community. The revisions include adding code values, increasing field sizes to accommodate data requirements, or restructuring transactions to handle more complex data groupings. Two or more trading partners clearly need to migrate to an accommodating version of X12 if their business processes require the implementation of those revisions.

NEW POLICY REQUIRES MIGRATION

Migration may also be required if the government establishes a new or has an existing policy that requires the DTEDI community's compliance. The following examples illustrate the two types of new policies:

- ◆ *Defense policy.* After becoming the lead agent to manage the electronic commerce telecommunications infrastructure for the Department of Defense, the Defense Information Systems Agency (DISA) mandated that the Defense transportation community migrate its implementation conventions to ASC X12 Version 003050. This action was required because DISA had established the 003050 version as its baseline for X12 standards compliance edits.
- ◆ *Federal policy.* If the federal government mandates that all EDI trading partners become year 2000 compliant, Defense transportation trading partners need to migrate to ASC X12 Version 004010.



Chapter 3

Assess and Approve Migration

The DTEDI community assesses and approves a migration in three steps. First, when the annual revision to the X12 standards has been released, the DTEDI DM task group assesses the new X12 standards by comparing all existing DTEDI transactions to the annual revision. Next, the DM task group identifies the size of the migration. The task group then recommends to migrate a transaction or bypass migration. Finally, the DTEDI Committee approves the migration.

ASSESS NEW X12 STANDARDS

The ASC X12 releases a new version of the EDI X12 standards annually. Each new version presents DTEDI trading partners an opportunity for upgrading their supported EDI transactions. The DTEDI community does not upgrade its transactions with every new version. Nevertheless, the DM task group should evaluate each release to determine the benefits obtained by a migration. If the DM task group determines that a new release provides insufficient benefits, the DTEDI community need not support it. However, the DM task group assesses the X12 standard when it perceives that an upgrade is advantageous. The assessment identifies all differences between the most recently supported version and the new X12 version. During the assessment, the DTEDI Committee identifies new code values and lists mapping and structural changes that affect any DTEDI IC.

Identify New Code Values

The DM task group may recommend a migration if an X12 release introduces a significant number of new codes that support DTEDI business processes. Migrating enables trading partners to rely on EDI translation software to monitor data quality. Further, the community may use borrowed codes until valid codes are available.¹ Migration makes the borrowed codes available for future use.

¹ A borrowed code is a valid unused X12 code intended for another context.

List Mapping and Structural Changes

The assignment of data to data elements is called “mapping.” A new version can discontinue support of data elements or segments. Accordingly, the DM task group identifies new data elements for any information formerly carried in the discontinued data elements. The DM task group lists all mapping changes.

The DM task group identifies structural differences between the new and currently supported versions. The task group examines field sizes; elimination or addition of elements within segments; elimination, addition, or change in usage of segments; and changes in usage or structure of loops.

IDENTIFY SIZE OF THE MIGRATION

As a result of the standards assessment, the DM task group selects ICs to migrate and identifies trading partners affected by the migration.

Select ICs to Migrate

The DM task group evaluates ICs it needs to migrate. It assesses all transactions exchanged through trading partner interfaces. After determining that an IC requires significant changes as a result of the standards assessment, the task group selects the IC as a candidate for migration.

Identify Trading Partners

After selecting the migration ICs, the DTEDI community identifies the information exchanges affected by the migration. As a result, the task group can identify the trading partners who use the IC. The trading partners should be included in all migration activities.

MIGRATION RECOMMENDATION

Based on the results of its evaluation, the DM task group develops a recommendation for each DTEDI transaction. The recommendation can be to migrate the transaction or bypass migration. The DM task group sends its recommendation to the DTEDI Committee.

Migrate Transaction

When the DM task group recommends to migrate a transaction, it prepares a list of new code values and mapping changes imposed by the new X12 version.

Bypass Migration

The DM task group recommends to bypass migration if it determines the migration does not benefit the DTEDI community. A bypass recommendation retires the inquiry until the next X12 version or a significant change occurs in the DTEDI community's business needs.

GAIN DTEDI APPROVAL OF MIGRATION

A decision to migrate requires the concurrence and cooperation of all participants on the DTEDI Committee. Following its standard voting procedures, the committee votes on the DM task group's recommendation. After deciding to migrate a transaction, the community begins to prepare for migration.

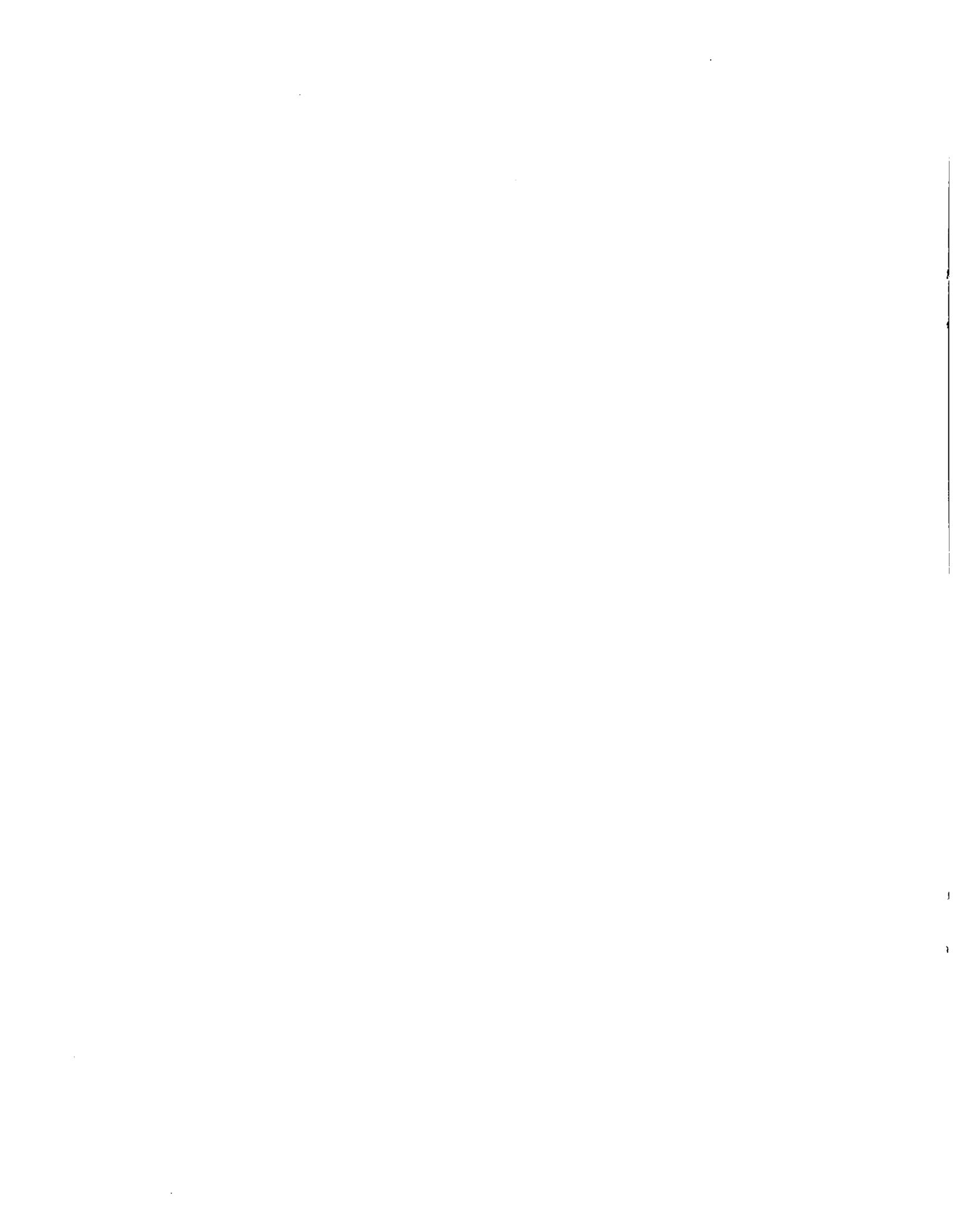


Chapter 4

Prepare for Migration

To prepare for migration, the DTEDI Committee completes the following tasks:

- ◆ *Perform preliminary impact analyses.* Each trading partner compares its current IC data requirements with the X12 standards assessment completed by the DM task group. Trading partners develop appropriate system change requests and estimate the time required to complete programming work orders.
- ◆ *Create a new IC.* Using the X12 standards assessment, the DM task group develops draft ICs for all transactions scheduled for migration. The draft ICs reflect current DTEDI business requirements. The DM task group follows established procedures for managing IC publication and DM during a migration. Appendix A describes the IC publication and DM procedures.
- ◆ *Align trading partners' application system requirements.* Participating trading partners cooperate in a step-by-step check of each new IC and, where necessary, adjust their EDI techniques to accommodate new business practices. As a result of this cooperative activity, trading partners develop final programming schedules for system change requests.
- ◆ *Publish an approved IC.* When trading partners have completed their alignment actions, the DTEDI Committee approves and publishes all migration ICs.
- ◆ *Prepare a draft migration plan.* The DM task group prepares a draft migration plan that includes a schedule and milestones for testing and implementing the migration. This plan is based on all system development schedules. Chapter 5 outlines implementation actions.



Chapter 5

Implement Migration Version

When preparations for migration are completed, the DTEDI community completes and implements the migration through the following actions: trading partners upgrade systems, perform required internal system tests, and perform an SIT; and the DTEDI Committee declares a production date.

UPGRADE TRADING PARTNER SYSTEMS

To prepare for migration testing, trading partners may need to enhance their translation software and application programs to meet any migration-related requirements.

- ◆ *Translation software.* To enable their translation software to process the latest version of the standards, trading partners need to upgrade their translation tables to the latest version of the X12 standards. In addition, changes in business requirements may require an upgrade to the user-defined file (UDF) sent between the translator and the application programs. To achieve the upgrade, trading partners need to change the mapping tables used by the translator to produce the UDF.
- ◆ *Application programs.* Migration provides trading partners the opportunity to upgrade application programs to meet the latest business requirements. This upgrade may require changes to input, output, and processing computer programs. Further, it may require changes to the application database structure.

PERFORM INTERNAL SYSTEM TESTS

Because trading partners use different systems, quality and acceptance testing may be needed for new system requirements. Trading partners need to finish internal tests in the assigned time before participating in the SIT.

PERFORM SYSTEM INTEGRATION TEST

Trading partners execute the SIT plan in Appendix B. Based on the results of the SIT, the test director (an organization identified in the plan) prepares a final test report for the DTEDI Committee.

DECLARE PRODUCTION DATE

When the DTEDI Committee declares that the SIT is successful, it establishes a date that all trading partners can process the new migration version.

Appendix A

Implementation Convention Publication and Data Maintenance

This appendix presents the seven steps the DTEDI community follows when it migrates ICs to new versions of the X12 standards. Implementing a new EDI standard version requires that trading partners develop new ICs to replace existing versions. At its January 1997 meeting, the DTEDI DM task group identified the following steps for managing IC publication and DM during a migration:

- ◆ Suspend current IC maintenance
- ◆ Publish an initial draft IC
- ◆ Review the initial draft IC
- ◆ Host a review group
- ◆ Publish and proofread the revised draft IC
- ◆ Publish and distribute the final draft IC
- ◆ Resume IC maintenance.

The DTEDI technical secretariat takes these seven steps after the trading partners complete their preliminary impact analysis.

SUSPEND CURRENT IC MAINTENANCE

During the life of a supported X12 version, the DTEDI DM task group may modify its ICs because of changing business requirements. DM actions, voted by the DM task group, accommodate the changes. The modifications pertain to only the most recent IC version supported and are not related to any additional previous version being maintained.

When a decision is made to migrate to a new version, the DM task group suspends all DM activities until a new version is implemented. The DM task group selects a DM item to mark the DM suspension point. That DM work request is the last piece of maintenance included in the new IC. (The community may continue to file maintenance requests after the suspension point, but they remain deferred until a new IC has been certified for implementation.) After DM is resumed, all deferred DM actions apply only to the new IC version.

PUBLISH INITIAL DRAFT IC

The DM task group designates a trading partner who develops and publishes an initial draft for a new IC. The draft contains all information relevant to a final IC, including an application matrix, examples, and code lists. The developer provides a copy of the initial draft to the DM task group. The DM task group designates the Logistics Management Institute (LMI) or the Defense Logistics Management Standards Office (DLMSO) to distribute it to the community via the World Wide Web.

REVIEW INITIAL DRAFT IC

The community reviews the initial draft IC before it convenes to discuss final changes. In preparation for the review group meeting, each trading partner reviews the IC for accuracy and completeness and prepares comments.

HOST REVIEW GROUP

The developer hosts an IC review group meeting and invites all trading partners who plan to implement the new IC. The group ensures that all legacy requirements and pending maintenance items (to the DM suspension point) are included in the initial draft IC. In addition, the group ensures that the IC follows EDI standards syntax requirements and semantic guidelines.

PUBLISH AND PROOFREAD REVISED DRAFT IC

After revising the initial draft IC with review group comments, the developer produces a revised draft IC. The DM task group distributes it via the Internet to the review group. Each review group member proofreads the IC to verify the accuracy of the revised draft and provides corrections in writing to the developer.

PUBLISH AND DISTRIBUTE FINAL DRAFT IC

Based on review group comments on the revised draft, the developer publishes a final draft IC for the DTEDI community. The chair of the DTEDI Committee provides notice announcing the publication of a final draft IC. In the letter, the chair requires that all trading partners perform an impact analysis of their systems. DLMSO or LMI, as directed by the DM task group, distributes the final draft to DTEDI trading partners via the Internet.

RESUME IC MAINTENANCE

The DM task group does not perform DM until the new IC has been tested successfully and is exchanged routinely within the new standards version. When those conditions have been met, the DM task group announces to the community it is beginning DM for the new IC.

Appendix B

System Integration Test

This appendix presents a summary approach for conducting an SIT. It is derived from activities performed during the SIT for the government bill of lading (GBL) migration to X12 Version 003050.

The DTEDI community conducts an SIT to ensure that any change necessitated by X12 standards revision and all new business requirements has been correctly incorporated by all trading partners. Based on migration test results, the DTEDI Committee decides when to terminate the SIT and proceed with implementation.

TEST ROLES AND RESPONSIBILITIES

The DTEDI community selects a trading partner to be the test director. The test director gathers and coordinates test data, oversees activities by the trading partners to accomplish the test objectives, and presents results to the DTEDI Committee.

Representatives from each migrating system constitute the test team. The test director is provided a primary point of contact for each system involved in the test. The points of contacts are the data gathering coordinators who report test results for their system to the test director. Data gathering coordinators monitor test transactions; collect test statistics required by the test director; and identify and report all technical problems (these include communications, data quality, standard edits, missing data, transaction formats, error correction, and translation) and other aspects of the test. Each trading partner determines if the objective has been successfully accomplished at its interface for each testing stage.

TEST PLAN

The DM task group prepares a plan for testing the migration to a new version. The plan addresses the following five distinct stages of the test: test data preparation, measures of performance (MOPs) development, translation test, application test, and overall evaluation. Testing at each stage needs to be satisfactorily completed by a trading partner for all test cases.

Prepare Test Data

This step calls for test participants to prepare test cases for translation and application testing and assign test identification data, such as fictitious GBL numbers, Department of Defense activity address codes, and GBL office codes.

Trading partners are selected to generate test data that they exchange using the various EDI interfaces. In addition, the test director develops a test activity form template for recording test activities and distributes it to all test participants.

Develop Measures of Performance

For trading partners to gauge their test results on an equal scale, they develop MOPs for the test and identify a rating scale for each measure. For example, a MOP can be that the translation should result in only one syntax error per 10,000 transaction sets. The MOPs ensure that all trading partners are satisfied with the integration test before they implement the migration.

Perform Translation Test

During the translation test, trading partners process each test case to authenticate the ability of translation software of each participating system to accept and translate incoming transactions and generate ASC X12 transaction sets 997, and reject incoming transactions and generate 997s. This action also verifies that translators are checking ASC X12 syntax.

To participate in the test, all affected trading partners

- ◆ exchange applicable test cases and 997s with their usual trading partners,
- ◆ record results on test activity forms, and
- ◆ resolve problems and retransmit test cases as necessary.

Translation testing is complete when all participating trading partners have successfully translated and recorded results for each test case.

Perform Application Test

The application test evaluates the use of test data by the trading partners' application systems and enables trading partners to modify their systems as required.

To test applications, each trading partner

- ◆ repeats the exchange of translation test data (including all compliance checking),

- ◆ records results on test activity forms, and
- ◆ resolves problems and reprocess test cases as necessary.

Application testing is complete when all participating trading partners have successfully processed test case data and recorded results for each test case exchanged.

Report Final Evaluation

As test transactions are processed throughout the entire system, trading partners gather data on any problem caused by migration version changes. After concluding testing, the test team holds a test evaluation meeting to evaluate all findings. It prepares a test analysis report and presents it to the DTEDI Committee. The report addresses any corrective action needed. Based on the corrective actions, the DTEDI Committee decides to terminate or extend the migration test.

PERFORM INTEGRATION TEST

This step tests the end-to-end EDI process. All trading partners who exchange transactions need to participate in this step and perform the following activities for each IC identified for migration. For each test case that trading partners exchange during the integration test, the following steps are used:

- ◆ The sending partner
 - generates the outbound UDFs from its application system,
 - uses translation software to translate the UDF into an outbound EDI transaction, and
 - sends the outbound EDI transaction to the receiving partner.
- ◆ The receiving partner
 - receives the inbound EDI transaction,
 - uses translation software to translate the inbound transaction into a UDF and generate a functional acknowledgment for each transaction and returns the functional acknowledgement to the sending partner,
 - processes the UDF into the application system, and
 - performs application edit checks on the inbound transaction data as required.

Trading partners may develop performance reports for each step and rate the results of the step using the MOPs. Trading partners declare a SIT successful when they are satisfied that performance is acceptable.

Appendix C

Abbreviations

ASC	Accredited Standards Committee
DISA	Defense Information Systems Agency
DLMSO	Defense Logistics Management Standards Office
DM	data maintenance
DTEDI	Defense Transportation Electronic Data Interchange
EDI	electronic data interchange
GBL	government bill of lading
IC	implementation convention
LMI	Logistics Management Institute
MOP	measure of performance
SIT	system integration test
UDF	user-defined file

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Impact of HIPAA Version 5010 on HIGLAS Flat File Renderings

INTRODUCTION

The Health Insurance Portability and Accountability Act (HIPAA) is a far-reaching federal law passed in 1996. It reformed the health insurance market and simplified health care administrative processes. Although the HIPAA legislation addresses many issues, the provisions that directly affect LMI's work for CMS pertain to transactions and code sets.

HIPAA requires health plans and providers that conduct certain transactions electronically to be compliant with the HIPAA transaction standards. The standards establish standard data content, codes, and formats for submitting electronic claims and other administrative health care transactions.

Over the past several years, LMI has worked with our sponsor in the Centers for Medicare and Medicaid Services (CMS) and with other interested parties to create flat-file renderings (FFRs) for all transaction types processed by the Healthcare Integrated General Ledger Accounting System (HIGLAS). These include transactions for establishing new health care beneficiaries or providers, submitting claims, and sending payment notifications.

CMS has decided to migrate the existing FFRs to version 5010 of the HIPAA standard. To assist with this migration, LMI compared the current HIGLAS FFRs with the X12 version 5010 and the HIPAA implementation of version 5010 for selected characteristics: minimum length, maximum length, usage requirement, and code value. We noted several impacts of the new standard, as documented in the tables that constitute this report. The impacts fall into the following categories:

- ◆ The maximum length of many fields is now larger than before. The REF02 field, for example, has expanded from 30 to 50 characters; NM1-03 from 35 to 60; and PER04 from 80 to 256.
- ◆ A few fields are smaller than before: LS01 and LE01 have changed from 6 characters to 4.
- ◆ The usage requirement for some fields changed from "Situational" to "Required."
- ◆ Code values in the 835 and 837 FFRs often differ from the HIPAA standard values.

811 CR-CS

Table 1 presents the impact of HIPAA version 5010 on the 811 CR-CS version 11.1 standard.

Table 1. 5010 Impact on 811 CR-CS Version 11.1

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
34	PER	04	Max length: 80	Max length: 256
40, 42, 44, 46, 48, 50, 52	REF	02	Max length: 30	Max length: 50
54	AMT	02	Min length: 9 Max length: 9	Min length: 1 Max length: 18
55, 57	DTM	01	Min length: 2	Min length: 3
66	GE	02	Type code: AN	Type code: NO
68	IEA	02	Type code: AN	Type code: NO

811 VMP

Table 2 presents the impact of HIPAA version 5010 on the 811 VMP version 6.1 standard.

Table 2. 5010 Impact on 811 VMP Version 6.1

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
34	PER	04	Max length: 80	Max length: 256
40, 42, 44, 46, 48	REF	02	Max length: 30	Max length: 50
50	AMT	02	Min length: 9 Max length: 11	Min length: 1 Max length: 18
51	DTM	01	Min length: 2	Min length: 3
68	GE	02	Type code: AN	Type code: NO
70	IEA	02	Type code: AN	Type code: NO

FISS 271

Table 3 presents the impact of HIPAA version 5010 on the FISS 271 version 12.1 standard.

Table 3. 5010 Impact on FISS 271 Version 12.1

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
29	BHT	03	Max length: 30	Max length: 50
39, 56, 69, 147	NM1	03	Max length: 35	Max length: 60
40, 57, 70, 148	NM1	04	Max length: 25	Max length: 35
49, 158	PER	04	Max length: 80	Max length: 256
77, 79, 81, 114, 120, 122, 124, 126	REF	02	Max length: 30	Max length: 50
144	LS	01	Max length: 6	Max length: 4
161	LE	01	Max length: 6	Max length: 4

MCS 271

Table 4 presents the impact of HIPAA version 5010 on the MCS 271 version 11.0 standard.

Table 4. 5010 Impact on MCS 271 Version 11.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
29	BHT	03	Max length: 30	Max length: 50
38, 57, 70, 146	NM1	03	Max length: 35	Max length: 60
39, 58, 71	NM1	04	Max length: 25	Max length: 35
48, 94, 156	PER	04	Max length: 80	Max length: 256

Table 4. 5010 Impact on MCS 271 Version 11.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
50, 96, 158	PER	06	Max length: 80	Max length: 256
78, 80, 82, 84, 117, 118, 121, 123, 125	REF	02	Max length: 30	Max length: 50
143	LS	01	Max length: 6	Max length: 4
159	LE	01	Max length: 6	Max length: 4

FISS 274

Table 5 presents the impact of HIPAA version 5010 on the FISS 274 version 12.0 standard.

Table 5. 5010 Impact on FISS 274 Version 12.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
78, 80, 82	AMT	02	Min length: 11 Max length: 11	Min length: 1 Max length: 18

MCS 274

Table 6 presents the impact of HIPAA version 5010 on the MCS 274 version 12.0 standard.

Table 6. 5010 Impact on MCS 274 Version 12.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
154	NM1	07	Max length: 10	Max length: 2

FISS 810

Table 7 presents the impact of HIPAA version 5010 on the FISS 810 version 8.0 standard.

Table 7. 5010 Impact on FISS 810 Version 8.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
34	PER	04	Max length: 80	Max length: 256
43	IT1	02	Max length: 10	Max length: 15
48	GE	02	Code value: AN	Code value: NO
50	IEA	02	Code value: AN	Code value: NO
NEW	IT1	03	None	Min length: 2 Max length: 2
NEW	IT1	04	None	Min length: 1 Max length: 17

HPSA 810

Table 8 presents the impact of HIPAA version 5010 on the HPSA 810 version 9.0 standard.

Table 8. 5010 Impact on HPSA 810 Version 9.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
34	PER	04	Max length: 80	Max length: 256
42	GE	02	Type code: AN	Type code: NO
44	IEA	02	Type code: AN	Type code: NO

FISS-MCS 824

Table 9 presents the impact of HIPAA version 5010 on the FISS-MCS 824 version 17.0 standard.

Table 9. 5010 Impact on FISS-MCS 824 Version 17.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
28	BGN	02	Max length: 30	Max length: 50
32	BGN	06	Max length: 30	Max length: 50
36	OTI	03	Max length: 30	Max length: 50
41	TED	01	Code value: ZZZ	Code value: 024
42	TED	02	Min length: 2	Min length: 1
44	TED	04	Max length: 6	Max length: 10
58	GE	02	Type code: AN	Type code: NO
60	IEA	02	Type code: AN	Type code: NO

FISS 835

Table 10 presents the impact of HIPAA version 5010 on the FISS 835 version 17.0 standard.

Table 10. 5010 Impact on FISS 835 Version 17.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
27	BPR	01	Code value: T	Code values: C, D, H, I, P, U, X (pp. 70–71)
42	BPR	16	Situational	Required (p. 76)
44	TRN	02	Max length: 30	Max length: 50 (p. 77)

Table 10. 5010 Impact on FISS 835 Version 17.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
46, 48, 68, 70, 72, 74, 95, 97, 99, 101	REF	02	Max length: 30	Max length: 50
51	N1	03	Code value: 40	Code value: "XV" (p. 88)
53	PER	01	Code value: IC	Code value: "CX" (p. 95)
56	PER	04	Max length: 80	Max length: 256 (p. 95)
58	N1	02	Situational	Required (p. 102)
78	CLP	03	Min length: 11 Max length: 11	Min length: 1 Max length: 18
79	CLP	04	Min length: 11 Max length: 11 FISS usage rqmt.: S	Min length: 1 Max length: 18 Usage Rqmt: M
80	CLP	05	Min length: 11 Max length: 11 FISS usage rqmt.: S	Min length: 1 Max length: 18 Usage Rqmt: M
81	CLP	06	Situational	Required (p. 126)
82	CLP	07	Situational Max length: 30	Required (p. 127) Max length: 50
87	NM1	03	Max length: 35	Max length: 60
88	NM1	04	Max length: 25	Max length: 35
105, 107	AMT	02	Min length: 11 Max length: 11	Min length: 1 Max length: 18
112	PLB	01	Max length: 30	Max length: 50
116	PLB	03-2	Max length: 30	Max length: 50
119	PLB	05-1	Situational	Required (p. 223)
120	PLB	05-2	Max length: 30	Max length: 50
123	PLB	07-1	Situational	Required (p. 224)
124	PLB	07-2	Max length: 30	Max length: 50
128	PLB	09-2	Max length: 30	Max length: 50
131	PLB	11-1	Situational	Required (p. 225)
132	PLB	11-2	Max length: 30	Max length: 50
135	PLB	13-1	Situational	Required (p. 226)
136	PLB	13-2	Max length: 30	Max length: 50

MCS 835

Table 11 presents the impact of HIPAA version 5010 on the MCS 835 version 19.0 standard.

Table 11. 5010 Impact on MCS 835 Version 19.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
33	BPR	07	Type code: NO	Type code: AN
35	BPR	07	Type code: NO	Type code: AN
44	TRN	02	Max length: 30	Max length: 50
46, 48, 72, 95	REF	02	Max length: 30	Max length: 50
51	N1	03	Code value: 40	"XV" is the only valid value (p. 88)
53	PER	01	Code value: IC	"CX" is the only valid value (p. 95)
56	PER	04	Max length: 80	Max length: 256
58	N1	02	Situational	Required (p. 102)
76	CLP	03	Min length: 9 Max length: 9	Min length: 1 Max length: 18
77	CLP	04	Min length: 9 Max length: 9	Min length: 1 Max length: 18
78	CLP	05	Min length: 9 Max length: 9	Min length: 1 Max length: 18
79	CLP	06	Not used Code value: [Blank]	Required Code value: MB
80	CLP	07	Max length: 30	Max length: 50
101, 103, 105, 107, 109	AMT	02	Min length: 9 Max length: 9	Min length: 1 Max length: 18
116	PLB	01	Max length: 30	Max length: 50
120	PLB	03-02	Max length: 30	Max length: 50
123	PLB	05-01	Situational	Required (p. 223)
124	PLB	05-02	Max length: 30	Max length: 50
127	PLB	07-01	Situational	Required (p. 224)
128	PLB	07-02	Max length: 30	Max length: 50

Table 11. 5010 Impact on MCS 835 Version 19.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
131	PLB	09-01	Situational	Required (p. 225)
132	PLB	09-02	Max length: 30	Max length: 50
135	PLB	11-01	Situational	Required (p. 225)
136	PLB	11-02	Max length: 30	Max length: 50
139	PLB	13-01	Situational	Required (p. 226)
140	PLB	13-02	Max length: 30	Max length: 50
145	GE	02	Type code: AN	Type code: NO
147	IEA	02	Type code: AN	Type code: NO

FISS 837

Table 12 presents the impact of HIPAA version 5010 on the FISS 837 version 17.0 standard.

Table 12. 5010 Impact on FISS 837 Version 17.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA (p. 67)
None	BHT	06	Missing in FFR	Required in HIPAA (p. 69)
None	N3	01	Missing in FFR	Required in HIPAA (p. 87)
None	N3	02	Missing in FFR	Required in HIPAA (p. 87)
None	N4	01	Missing in FFR	Required in HIPAA (p. 88)
None	N4	02 to 04	Missing in FFR	Required in HIPAA (p. 87)
12	ISA	12	Code value: 00401	Code value: 00501
29	BHT	03	Max length: 30	Max length: 50
34, 66	NM1	03	Max length: 35	Max length: 60
35	NM1	04	Max length: 25	Max length: 35
44	PER	04	Max length: 80	Max length: 256
63, 78	NM1	03	Max length: 35	Max length: 60
68	NM1	08	Code value: PI	"XX" (p. 86)

Table 12. 5010 Impact on FISS 837 Version 17.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
70	REF	01	Code value: XX	“EI” (p. 90)
71, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151	REF	02	Max length: 30	Max length: 50
76	NM1	01	Code value: BI	“IL” (p. 112)
79	NM1	04	Max length: 25	Max length: 35
83	NM1	08	Code value: HN	“MI” (p. 113)
86	CLM	02	Not used	Required
105	REF	01	Code value: D9	“F8”
124	REF	01	Code value: CR	“9C” (p. 168)

MCS 837

Table 13 presents the impact of HIPAA version 5010 on the MCS 837 version 16.0 standard.

Table 13. 5010 Impact on MCS 837 Version 16.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
None	ST	03	Missing in FFR Can use same value as GS08	Required in HIPAA
12	ISA	12	Code value: 00401	Code value: 00501
29	BHT	03	Max length: 30	Max length: 50
35, 48, 64, 85, 222, 235	NM1	03	Max length: 35	Max length: 60
36, 49, 65, 86, 223, 236	NM1	04	Max length: 25	Max length: 35
45	PER	04	Max length: 80	Max length: 256
62	NM1	01	Code value: 82	Code value: 85
69	NM1	08	Code values: UP, 34	“XX” (p. 89)

Table 13. 5010 Impact on MCS 837 Version 16.0

Field no.	Segment	Element	HIGLAS FFR length/ requirement	5010 length/ requirement
72, 74, 76, 78, 96, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 230, 232	REF	02	Max: length: 30	Max length: 50
83	NM1	01	Code value: BI	"IL" (p. 121)
90	NM1	08	Code value: HN	"MI" (p. 122)
103	CLM	05-02	[Blank]	"B" (p. 159)