
PRE-ISSUANCE TECHNICAL REQUIREMENTS

Version 4.1.2.

FINAL



February 9, 2005

Executive Summary

This document defines the technical requirements to a card manufacturer who plans to produce the smart cards for the Department of Defense (DoD) Common Access Card program or other Federal and Government Agency smart card programs. The production of these smart cards requires card manufacturers to understand all the processes from issuance to delivery of the cardstock. This document addresses the technical specifications for the configuration of the integrated circuit chip resident on the card, the physical characteristics of the card exterior, and any cardstock shipment requirements. As part of configuring the chip, this document describes the management of the keys. The document begins with the technical specifications to produce the unique master keys and transfer them to the DoD or other Federal and Government Agencies. Additionally, the document defines the management of the card stock from the point of ordering a batch of cards to its delivery to a Federal or Government Agency's issuance site.

The Government provides this technical specification requirement document to all card manufacturers. The information in this document is subject to change although to the degree possible, the Government intends to standardize the pre issuance process so that all card vendors can reference a common set of criteria for the government smart card manufacturing process. It is the responsibility of the Government to meet the overarching program objective of 'any card used anywhere' regardless of card manufacturer. To achieve this goal, the card manufacturer must work closely with the government to ensure the card provided will integrate flawlessly with the current issuance software and inventory logistics system.

The Government has made every attempt to ensure accuracy and completeness of this document. We encourage all readers to provide us with suggestions for overall improvement. Comments or suggestions can be sent to cacxml@osd.pentagon.mil with a subject line noting Pre-Issuance Technical Requirements revisions.

Document Revisions

Note: Revision notes for Pre-Issuance Spec 3.8. and beyond will be included in Appendix D.

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4.1.1	12/04	WIW	Revised contactless key diversification, added new CMIDs and Customer IDs
4.1.2	2/04	WIW	Included changes requested by vendors and Federal partners

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1. INTRODUCTION

1.1. About this Document

This document presents and describes the pre-issuance process from the technical configuration of the chip on the Government smart card to the management of its keys and the control of the card stock inventory from the card manufacturer's vault to the final shipment location.

1.2. Overview

The pre-issuance process consists of the initialization and delivery of batches of Government smart cards and Common Access Cards (CACs) to the issuance sites of the card issuer.

In order to pre-issue smart cards and/or CACs, the card manufacturer (or card vendor) requires a configurable smart card initialization system that is able to produce smartcards in stacks of 100 cards for each batch order provided by the card issuer. Card issuer shall reference either the DoD Access Card Office or the official Government Entity point of contact (POC). The numerical and alphanumeric representations listed in the spec are to be used to identify the products and configurations being requested by the card issuer. A revision of the pre-issuance specification in 2005 was to introduce the concept of local and global configuration. Local configuration IDs will be managed by the individual government entities while the global configurations will reference IDs that will be shared government-wide. Legacy IDs are still annotated within the specification to assist in backwards compatibility with existing systems.

The card manufacturer must follow the requirements of the card issuer regarding the key management, the smart card configuration, and the packaging and the batch management. In addition, the card manufacturer must also follow standard practices for implementing the key management procedures. Since these procedures and the environment in which they occur may be subject to auditing, Hardware Security Modules (HSMs)¹ must be used to protect all keys involved in the pre-issuance of cards.

Finally, the card manufacturer must perform the pre-issuance process at a U.S. facility.

¹ or smart card based equivalent

2. PRE-ISSUANCE PROCESS SUMMARY

The various functions of the smart card pre-issuance system require coordinated interactions between the card manufacturer and the card issuer. The card manufacturer is the vendor who has a contract to produce smart cards or CACs with the Government Entity. The Card Issuer in this document is the Government Entity with which a contract is held. Unless specified otherwise, the card manufacturer **MUST** implement these functions at their manufacturing site.

A change in the upgraded specification is the introduction of global and local IDs. In prior specifications each alphanumeric representation of the card configuration was clearly labeled and listed within the pre-issuance specification. As the specification has grown to include other Federal Agencies the scope has been limited to break the specification down into global and local IDs. Global IDs are those that will be managed and jointly shared by all implementing the Federal Pre-Issuance Specification while Local IDs are those configurations that will be managed individually by the card issuer and/or Federal Agency and are identified in Appendix B. Finally, the unique criteria for separating each order will be the customer ID (see Section 5.2).

2.1. Smart Card Key Management

Card Manufacturer's are responsible for the implementation of the pre-issuance key management protocols and algorithms described in this section. These requirements are further discussed in Section 3 and Appendix A.

2.1.1 At the Card Manufacturer Facility

- Generation of Open Platform master key set (KMC).
- Generation of transport key (TK).

2.1.2 At the Card Issuer Facility

- Key ceremony to transfer the transport key.
- After the key ceremony, transfer master key using transport key.

2.1.3 Setup of Smart Card Initialization System

- Configuration of card initialization system according to Smart Card configuration requirements: Key management, smart card configuration, smart card packaging, and Batch Management.
- Registration of applet packages sent by the card issuer.

2.2. Smart Card Configuration

Listed below is a brief overview of the Card Product logical requirements. These requirements are further discussed in Section 4.

2.2.1 Smart Card Initialization

Initialization of each smart card in a batch following the card configuration specified in this document:

- Download of applet packages with appropriate applet identifiers (AID)
- Secure loading of Open Platform (OP) Key Set(s) derived from the KMC
- Update of Card Production Life Cycle (CPLC) information
- Secure loading of Contactless Master Key (if applicable)

2.3. Smart Card Batch Management

The card issuer communicates cardstock production and shipping orders to the card vendor via Batch Order Descriptor (BOD) and Shipping Order Descriptor (SOD) XML files. These are further discussed in Section 6 and Appendices B and C.

2.3.1 Batch Order Processing

- Government Entity sends a card Batch Order Descriptor to the card manufacturer by email.
- The Card Manufacturer initializes a batch of cards according to the Batch Order Descriptor configuration.
- The cardstock will be of the key and quantity defined in the Batch Order.
- Upon production of the cardstock, the card manufacturer will store the card stock at a local manufacturer's vault.
- Once cardstock is produced, the Batch Delivery Descriptor (BDD) must be delivered to the Government entity via e-mail within 1 business day of delivering cardstock to the card manufacturer's vault.

2.3.2 Shipping Order Processing

- A Shipping Order Descriptor will be sent via e-mail from the Government Entity to the card manufacturer for card delivery to a RAPIDS site or Government Entity warehouse.
- Card manufacturer will e-mail a Shipping Delivery Descriptor (SDD) to an operator of the Government Entity's Inventory system via e-mail
- Card manufacturer will deliver the smart cardstock from the local manufacturer's vault to the site requested by the Government Entity site.
- Once cardstock is shipped, the SDD must be delivered to the Government Entity via e-mail within 1 business day of shipping cardstock from the card manufacturer's vault.

2.3.3 Smart card Packaging

- The physical cards are packaged in stacks of 100 or 5 cards in accordance with the batch and shipping order descriptor XML files. (Note: A lot of printer stackers do not support larger quantities).
- Stacks are packaged into appropriate sized containers for the ordered amount.
- Each stack is identified by a unique alphanumeric 8-byte field called a stack ID. The stack IDs are unique for a batch order.
- Detailed packing descriptions are noted in Section 5.

3. KEY MANAGEMENT REQUIREMENTS

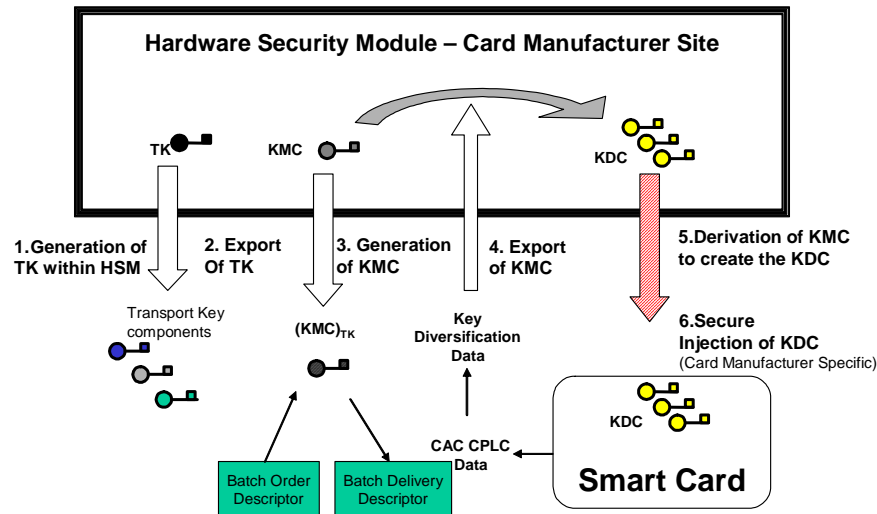
This section presents the required key management functions that must be implemented by the card manufacturer.

- Section 3.1 defines the key management process.
- Section 3.2 defines all of the keys used in the key management operation.
- Section 3.3 defines the configuration of the key management that **MUST** be implemented by the Card Manufacturer.

3.1. Key Management Process

This section defines the key management operations required by the pre-issuance process, and the security requirements for these operations. The diagram below, Figure 1 shows the key management operations for the pre-issuance process.

Exhibit 2-1 Key Management Operations for Pre-Issuance Process



The key management operations defined for pre-issuance are:

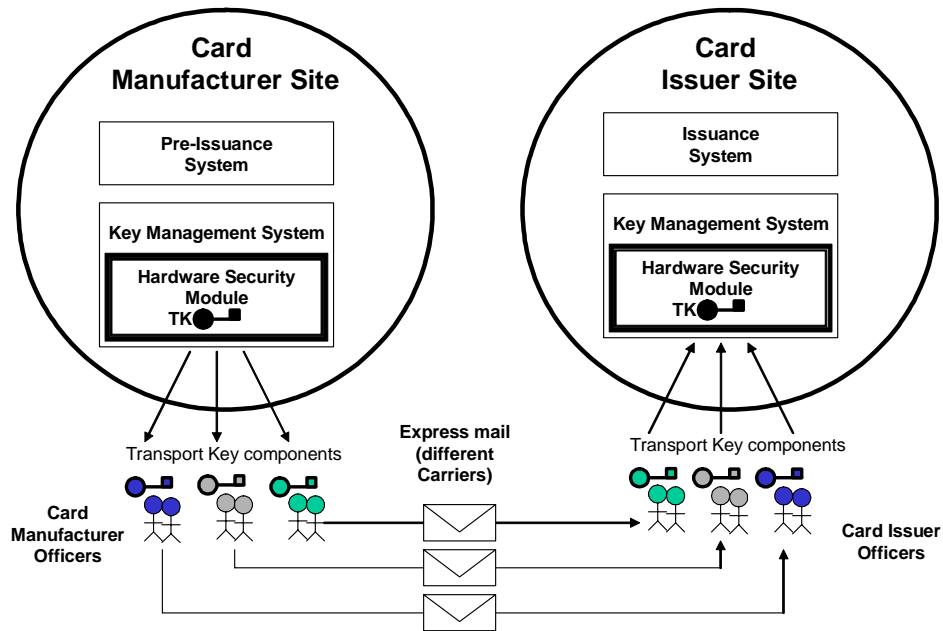
- *TK exchange - Key Ceremony*: Secure injection of Card Manufacturer’s transport key components into the card issuers HSM to create a copy of the transport key secured by the HSM.
- *KMC Generation*: Generation of a master key (KMC) at the card manufacturer site. It is used to derive card specific key sets loaded in the Smart Card Manager or Security Domains. This master key is generated upon an explicit request from the Government Entity, after a threshold based on time and/or number of cards issued has been reached. The new master key would be implemented only after verifying Government Entity interoperability tests were completed. Note that depending on the batch order descriptor, the master key may be imported rather than generated by the card manufacturer’s HSM
- *KMC Export*: Wrap of the generated KMC wrapped with the transport key (TK).
- *KMC Derivation*: Production of the card Open Platform Key Set (KDC) that is specific to each card and used to establish an OP secure channel from the issuance portal. It is obtained by deriving the batch master key set (KMC) keys. The card diversification data and the key derivation methods are default methods described in the key management requirements section, and mentioned in the batch order descriptor. In specific cases, a different diversification method may be specified in a later addition to this document.
- *Secure Injection of KDC*: The injection method is specified by the card manufacturer and must be validated by the Card Issuer (currently not being implemented).
- *Contactless Key Exchange - No key ceremony necessary if the same manufacturer handles both OP and contactless master key (KMC and CKMC)*: Similarly, a 3DES Master Key (KMC) may be established between the Card Issuer and Card Manufacturer to secure the card management interfaces of any

Contactless GSC-IS compliant (ISO 14443 – Type A) cardstock which may be included as a component of the Smart card. The contactless chip master key (CKMC) is transported using the same transport key (TK) established between the issuer and the card manufacturer, unless the key management of the contactless chip is handled by an entity other than the card manufacturer. A CKDC is derived from the KMC using the Contactless UID obtained from the ISO 14443-3 anti-collision loop(s). [Ref ISO 14443-3, Section 6.4.4]. Please be aware that this works only for 14443 type A, for type B the contactless UID is a random number that changes everytime and will be discussed in a future version of the specification.

3.1.1 Transport Key Exchange – Key Ceremony

The exchange of transport keys between the card manufacturer and the issuer follows the split knowledge procedure required by FIPS 140-2. The diagram below, Figure 2, illustrates the key ceremony that is required to establish a secure key transport channel between the card manufacturer and the card issuer:

**Exhibit 2-2
Key Ceremony Diagram**



The key ceremony is the installation procedure of a symmetric transport key in both card manufacturer and card issuer hardware security modules (HSMs). The transport key is a double-length (16 byte) triple-DES key different for each card manufacturer. From the card manufacturer standpoint, the key ceremony process corresponds to:

- The identification of one card manufacturer security officer in charge of organizing the key ceremony at the card manufacturer site. The security officer is also the contact point for the card issuer.
- The selection of three teams of two officers (primary and back-up representative). The teams are selected across different divisions of the card manufacturer. Both officers do not have to be present for the key ceremony to occur.
- The identification of the mail addresses of the three card issuer officers, and the identification of three different express mail carriers. This is followed by the assignment of: one express mail carrier and the address of one card issuer officer, to each team of card manufacturer officers.
- The generation from the card manufacturer key management system of three 16-byte binary strings components randomly generated, along with their three byte Key Check Value (KCV). The components are generated in an HSM, with odd parity bits set, then XOR-ed together inside to form the triple-DES 16 byte Transport Key, with the parity bits properly set. KCVs are detailed in the key management section. XORing, parity bits, and Key check values are described in Appendix A.
- One after the other, each component is exposed with its KCV to one team of officers through the key management system terminal, and then erased from the terminal and key management system memory, but it is permissible for the card manufacturers to maintain a copy of the transport key in their HSM. Each team member prints only once its component and KCV on paper and inserts the paper into a sealed envelope. Each team has the responsibility to not divulge in any way the component values to other teams or other parties. On the other hand, each team must verify the quality of the seal on all envelopes.
- After all components are located in their envelope, each team has the responsibility to ship its envelope using the express mail carrier and the assigned address of the card issuer officer.

3.1.1.1 Card Manufacturer Security Notes

The non-transport key components must never be copied during the procedure. The original and unique versions of the components are to be sent to the card issuer.

If for some reason the transport key is lost at the card issuer site, a new key ceremony is required for the generation of a new transport key to insure transfer of new keys between card issuer and card manufacturer.

From the card issuer standpoint, the key ceremony process corresponds to:

- The identification of one card issuer security officer in charge of organizing the key ceremony at the card issuer site. The security officer will also act as contact point for receiving wrapped master keys.
- The selection of three teams of two officers. The teams are selected across different divisions of the card issuer.
- The identification of three mail addresses of one officer in each team, and the communication of these addresses to the card manufacturer contact point.

3.1.1.2 Card Issuer Security Notes

- The components must be destroyed after the transport key is loaded.

- The components must never be copied during the procedure.
- If the transport key is lost or unusable at the card issuer site, a new key ceremony is required for the generation of a new transport key to insure transfer of new keys between card issuer and card manufacturer.
- If during the key ceremony any key component is disclosed to an unauthorized entity or if a situation occurred during the key ceremony where the risk of disclosure has been high or is unknown, the key ceremony must be fully restarted.

Once both card manufacturer and card issuer HSMs have been equipped with the card manufacturer transport key, other key material can be exchanged between the card manufacturer and the card issuer HSMs using TK as a wrapping key, with the triple DES-ECB algorithm.

In the current version, the keys that need to be exchanged are the Open Platform master key set that is used to diversify the unique Smart Card OP Key Sets.

3.1.2 Generation and Wrap of KMC

It is recommended that the initial Card Issuer Master Key (KMC) should be generated in the card manufacturer HSM. As a contingency, the KMC may be generated in the Card Issuer HSM and then imported to the card manufacturer HSM.

The master key, KMC is a double length (16-byte) triple DES key. It is wrapped with TK in the HSM using triple DES-ECB, and its Key Check Value is computed according to the algorithm described in Appendix A.

The wrapped KMC and its KCV are communicated to the Card Issuer security officer (i.e., contact point).

3.1.3 OP KMC Diversification

During the initialization of each Smart Card, three card specific OP Keys *KDCmac*, *KDCenc*, *KDCkek* are generated within the card manufacturer HSM by deriving KMC with 16-byte diversification data specific to each key. Please see OP Card Production Guide 2.02, November 2000 for reference on the specification. Note that the specifications are subject to change.

The three keys are double length (16-byte) triple DES keys. The derivation algorithm is a triple DES-ECB algorithm (Please refer to Triple DES ECB in Appendix A).

The derivation data needed is obtained from the first 10 bytes in response to *INITIALIZE FOR UPDATE* addressed to the Card Manager:

- Last two bytes of AID 2 bytes of Card Manager
- IC Fabrication Date 2 bytes
- Chip ID (CSN) 4 bytes
- IC Batch Id 2 bytes

The format of the derivation data for *KDCenc* is the following:

1. Last 2 bytes of AID
2. Chip Id (CSN) 4 bytes
3. 'F0 01' 2 bytes
4. Last 2 bytes of AID
5. Chip Id (CSN) 4 bytes
6. '0F 01' 2 bytes

The format of the derivation data for *KDCmac* is the following:

1. Last 2 bytes of AID
2. Chip Id (CSN) 4 bytes
3. 'F0 02' 2 bytes
4. Last 2 bytes of AID
5. Chip Id (CSN) 4 bytes
6. '0F 02' 2 bytes

The format of the derivation data for *KDCkek* is the following:

1. Last 2 bytes of AID
2. Chip Id (CSN) 4 bytes
3. 'F0 03' 2 bytes
4. Last 2 bytes of AID
5. Chip Id (CSN) 4 bytes
6. '0F 03' 2 bytes

3.1.4 Contactless KMC Diversification

The following applies to contactless hybrid cards i.e. with a standalone contactless chip. For dual interface contactless cards, the same diversification scheme as for contact only cards applies.

The Card Manufacturer/Issuer Master Key shall be diversified and written to the PICC in place of the PICC vendor/Card Manufacturer PICC Master Key. The Philips DESFire 4k PICC Master Key is KeyNo 0x00 of AID 0x00.

During the initialization of each CAC with a Contactless GSC-IS compliant (ISO/IEC 14443) interface, a Contactless Master Key (CKMC) is used in conjunction with the Contactless UID to form a unique Contactless Diversified Master Key (CKDC).

The CKMC (and therefore the CKDC) is a double length (16-byte) triple DES key. The derivation algorithm is a triple DES-ECB algorithm applied to 16 bytes of diversification data. The PICC UID (DESFire 4k follows the ISO/IEC 14443-3 'Double Cascade' (7-byte UID) scheme [ER4]) is the basis for the key diversification.

Format of the CKMC diversification data is the following: "LEFT" eight bytes ISO/IEC 14443-3 anti-collision (UID) data {SN0, SN1, SN2, SN3, SN4, SN5, SN6} – 7 bytes Padding, 'FF' – 1 byte
"RIGHT" eight bytes
"LEFT" XOR 'FF' – 8 bytes

e.g. Given a PICC UID of 0x04.11.22.33.44.55.66, and a Padding value 0xFF. The resulting 16-bytes diversification data would be 0x04.11.22.33.44.55.66.FF.FB.EE.DD.CC.BB.AA.99.00

Therefore, CKDC = 3DES-ECB(CKMC, 16-bytes derivation data outlined above), where the value of CKMC is obtained from the Card Manufacturer Key Management System using the Key Configuration ID retrieved from the Batch Order Descriptor (BOD).

Note: Pre-Iss Spec 4.1.2. does not specify the requirements for Single-cascade and Triple Cascade UID and the requirements will be reserved for future use (RFU).

3.1.5 Secure Injection of the KDC Key Set

The card manufacturer may choose the procedure used to load the Diversified Master keys (*KDCenc*, *KDCmac*, *KDCkek*, and *CKDC*) in each card provided that the following security requirement below is implemented.

The OP Key Set order in the card (1=AUT-ENC, 2=MAC, 3=KEK) is chosen by default unless specified otherwise in the XML descriptor.

3.2. Keys

3.2.1 Transport Key Components

Transport key components are 16-byte long binary strings with odd parity bits set that are XORed to form the Transport key. The Transport Keys components are transient in the HSMs. The Transport key components are managed independently by separate, authorized owners following the split knowledge procedure. When combined together, the transport key components generate the transport key (TK). This combination procedure allows transport keys to be generated on different sites with HSM originated from different vendors.

**Table 3-1
Transport Key Components**

Key	Type	Scope	Usage	Notes
TKC1, TKC2, TKC3	DES3 16-byte	Sent by Card Manufacturer officers to Card Issuer officers.	Used to build the Transport Keys.	Generated by the Card Manufacturer and loaded into the card issuer HSM under split knowledge procedure, also known as key ceremony. The transport key components are transient in the HSM.

3.2.2 Transport Keys

Transport keys are used to wrap/backup/export or unwrap/restore/import master keys. Transport keys are double length triple-DES keys. The wrapping mechanism used to protect master keys is triple-DES ECB. The Transport Keys are permanently stored in the HSMs, and the pkcs#11 key attributes are set non-extractable from the card issuer HSM.

The Card Manufacturer Transport Key (TK) is used to protect the transport of the pre-issuance OP master key set between the card issuer and the card manufacturer. The card manufacturer will export the KMC or CKMC with TK, so the key can automatically be unwrapped inside cloned HSMs already initialized with TK. The transport keys are labeled to allow their identification during their life cycle. The card manufacturer transport key labels are defined as follows:

TK_CM_<CMID>_<CUSTOMER>_<CLASS>_<APP>_<version>

CMID corresponds to a card manufacturer such as:

CMID	Abbreviation
Oberthur Card Systems	OCS
Legacy Schlumberger products	SLB
Axalto (Formerly Schlumberger)	AXL
Gemplus	GEM
Giesecke & Devrient	GDA

CUSTOMER corresponds to the card issuer such as:

Agency	Abbreviation
Department of Defense	DoD
Department of Interior	DoI
National Aeronautics and Space Administration	NASA
Department of Veteran's Affairs	DoVA

Department of Homeland Security	DHS
Department of State	DoS
Department of Transportation	DoT
Transportation Security Administration	TSA
General Services Administration	GSA

CLASS corresponds to the Key Class such as:

Description	Abbreviation
Production card population / production key	Prod
DoD test card population / test key	Test
Application Developer population / AppDev key	AppDev
Card Manufacturer's Application Developer Key	SDK

APP corresponds to the Key Application such as:

Description	Abbreviation
Open Platform Secure Channel	OPSC
Contactless Mutual Authentication	CLGSC

Version corresponds to the identifier of the transport key for the card manufacturer (Key Config ID) which is defined in table 3-5. It is an integer starting with 1 representing the key version. Each time the key is replaced, <version> is incremented by one. This version corresponds to the actual version number provided in the KeyConfigId of the corresponding Batch Order descriptor.

Example transport key label: **TK_CM_AXL_DOD_PROD_OPSC_1**

Table 3-2
Transport Keys

Key	Type	Scope	Usage	Notes
<TK>	DES3 16-byte	Shared by Card Issuer and Card Manufacturer	Used to wrap Master keys	Can be either generated by Card manufacturer and card issuer. There is at least one transport key for each card manufacturer. A test Transport Key, different from the Production transport key must be used to send the Test Keys.

Transport Keys must be sent along with their corresponding key check values to the Card Issuer. The Key Check value should follow the specifications located in Appendix A (A6).

3.2.3 Master Keys

The master keys are double length triple-DES keys used to generate the diversified Card Master Key (KMC) values unique to each card issued. Each master key is defined for a population of cards issued during the master key life span. Each master key corresponds to a particular security service for a particular applet (Open Platform Card Manager, OP Security Domain, Contactless 3DES Master Key, applet Access Control, or other card application): Communication integrity control, Communication confidentiality, mutual authentication, applet read access control, applet write access, etc.

The Master Keys are permanently located in the HSMs. The scope of master keys is one or more batches of cards. The master keys transported between the Card Manufacturer and Card Issuer using TK. The master keys are labeled to allow their identification during their life cycle. Master Keys defined for the smart card pre-issuance are the Card Manufacturer Master Keys. KMC labels are defined as follows:

KMC_CM_<CMID>_<CUSTOMER>_<CLASS>_<APP>_<version>

CMID corresponds to a card manufacturer such as:

CMID	Abbreviation
Oberthur Card Systems	OCS
Legacy Schlumberger products	SLB
Axalto (Formerly Schlumberger)	AXL
Gemplus	GEM
Giesecke & Devrient	GDA

CUSTOMER corresponds to the card issuer such as:

Agency	Abbreviation
Department of Defense	DoD
Department of Interior	DoI
National Aeronautics and Space Administration	NASA
Department of Veteran's Affairs	DoVA
Department of Homeland Security	DHS
Department of State	DoS
Department of Transportation	DoT
Transportation Security Administration	TSA
General Services Administration	GSA

CLASS corresponds to the Key Class such as:

Description	Abbreviation
Production card population / production key	Prod
DoD test card population / test key	Test
Application Developer population / AppDev key	AppDev
Card Manufacturer's Application Developer Key	SDK

APP corresponds to the Key Application such as:

Description	Abbreviation
Open Platform Secure Channel	OPSC
Contactless Mutual Authentication	CLGSC

Version corresponds to the Key Config ID defined in table 3-5. It is an integer starting with 1 representing the key version. Each time the key is replaced, < **version** > is incremented by one. This version corresponds to the actual version number provided in the KeyConfigId of the corresponding Batch Order descriptor.

Example master key label: **KMC_CM_AXL_DOD_PROD_OPSC_1**

**Table 3-3
Master Key Label**

Key	Type	Scope	Usage	Notes
<KMC>	DES3 16-byte	Shared by Card Issuer and Card Manufacturer	This master key is used to diversify the smart card keys for OP secure channel and/or mutual authentication.	Transferred from Card Manufacturer to Card Issuer.

Master Keys must be sent along with their corresponding key check values to the Card Issuer. The Key Check value should follow the A.6 specifications of the appendix

3.2.4 Test and Software Developer Kit (SDK) keys

3.2.4.1 Test keys

The test keys will be used to validate:

- The correct implementation of the diversification method in the card.
- The correct injection of the smart card keys in the card.
- The key ceremony.

In addition, test keys are also used for encoding test cardstock that is used for internal and external developer testing. As such, the test Key values should be sent to the Card Issuer wrapped with the test Transport Key.

3.2.4.2 SDK keys

The Software Developer Kit (SDK) cardstock is used for external developer testing. SDK keys are the generic keys card manufacturer's supply for all their cardstock that is supplied to developers using the CMs cardstock.

3.2.5 Smart Card Keys

The Smart Card keys are double length triple-DES keys used for Open Platform card content, key, and status management. Each smart card key is generated by deriving a particular master key and unique smart card diversification data. A smart card key is therefore unique by construction. Smart Card keys are not labeled, but each smart card key refers to its associated master key and label. Smart card Keys are transient in secure devices.

**Table 3-4
Smart Card Keys**

Key	Type	Scope	Usage	Notes
<KDC>_ENC	DES3 16-byte	Loaded by Card Manufacturer in each Card.	Used for OP secure channel mutual authentication.	Diversified from KMC. When injected in the smart card, the key set version must be 1. The key set index must be 01
<KDC>_MAC	DES3 16-byte	Loaded by Card Manufacturer in each Card.	Used for secure channel MACing capability	Diversified from KMC. When injected in the smart card, the key set version must be 1. The key set index must be 02
<KDC>_KEK	DES3 16-byte	Loaded by Card Manufacturer in each Card.	Used for OP secure channel encryption capability	Diversified from KMC. When injected in the smart card, the key set version must be 1. The key set index must be 03

Note: The key set index on the Oberthur ID-One Cosmo 64 v5.2 is 00, 01, 02.

3.3. Key Management Configuration

The key management configuration defines the transport keys, master keys, algorithms and protocols that must be implemented or provided by the Card Manufacturer.

3.3.1 Global Platform Key Management Configuration

This section describes the key material as derived from the above key management requirements for Global Platform based products:

- 1 16-byte triple-DES Transport key and its 3 Components
- 1 16-byte triple-DES Master key(s)
- Master Key diversification algorithm
- Master Key wrapping algorithm (with transport key)
- Key Check Value generation algorithm

Note that a key configuration is specific to a particular generation of the keys. If the keys need to be updated, a new key configuration must be communicated to the card manufacturer. The tables below indicate valid Key Configuration IDs that shall be referenced in all .xml (BOD/BDD/SOD/SDD) communications for both Contact and Contactless card products.

**Table 3-5
Product Configuration and Key Config ID (Local)**

	Card Manufacturer and Product	Key Class	Government Entity (Implementation Date)	Key Configuration ID
Legacy IDs	Schlumberger Cyberflex Access 32k v2 SM7v2	Prod and Test	DoD (Aug 01)	0000000001
	Oberthur CosmopolIC v4 32k	Prod and Test	DoD (Aug 02)	0000000002
	Schlumberger Cyberflex Access 32k v2 SM7v2	Test	DoD (Sep 02)	0000000002
	Oberthur CosmopolIC v4 32k	Prod	DoD (Jan 03)	0000000003
	Schlumberger Cyberflex Access 32k v2 SM7v2	Prod	DoD (Feb 03)	0000000004
	Axalto Cyberflex Access 64k v1 SM4v1		DoD (May 03)	
	Oberthur CosmopolIC v4 32k	Test	DoD (Jan 03)	0000000005
	Schlumberger Cyberflex Access 32k v2 SM7v2	Test	DoD (Feb 03)	0000000006
	Axalto Cyberflex Access 64k v1 SM4v1		DoD (May 03)	
	Oberthur CosmopolIC v4 32k	App Dev	DoD (Jan 03)	0000000007
	Schlumberger Cyberflex Access 32k v2 SM7v2	App Dev	DoD (Feb 03)	0000000008
Axalto Cyberflex Access 64k v1 SM4v1		DoD (May 03)		
Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	Prod	DoD (TBD)	0000000009	

Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoD (Aug 03)	000000010
Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	Test	DoD (TBD)	000000011
Axalto Cyberflex Access 64k v2	Test	DoD (Aug 03)	000000012
Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	App Dev	DoD (TBD)	000000013
Axalto Cyberflex Access 64k v2	App Dev	DoD (Aug 03)	000000014
Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM4v1 Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	SDK	DoD (May 03)	000000015
Axalto Cyberflex Access 64k v2	Prod	DoD (Aug 03)	000000016
Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoI (July 03)	000000018
Axalto Cyberflex Access 64k v1 SM4v1	Test	DoVA (Fall 04)	000000026
Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoVA (Fall 04)	000000027
Gemplus GemTwin 64k v1	Test	DoVA (Fall 04)	000000030
Gemplus GemTwin 64k v1	App Dev	DoVA (Fall 04)	000000031
Gemplus GemTwin 64k v1	Prod	DoVA (Fall 04)	000000032
Gemplus GemTwin 64k v1	Test	DoI (Fall 04)	000000033
Gemplus GemTwin 64k v1	App Dev	DoI (Fall 04)	000000034
Gemplus GemTwin 64k v1	Prod	DoI (Fall 04)	000000035
Gemplus GemTwin 64k v1	Test	NASA (Fall 04)	000000036
Gemplus GemTwin 64k v1	App Dev	NASA (Fall 04)	000000037
Gemplus GemTwin 64k v1	Prod	NASA (Fall 04)	000000038
Schlumberger Cyberflex Access 32k v2 SM7v2	Prod	TBD	000000048
Axalto Cyberflex Access 64k v1 SM4v1	Test	TBD	000000049
G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Test	TBD	000000050
G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Prod	TBD	000000051
Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K) (Hybrid and Dual Interface products)	Test	TBD	000000052
Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K)/ Oberthur ID-One Cosmo 64 v5.2 Dual	Prod	TBD	000000053
Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K)/ (Hybrid and Dual Interface products) G&D Sm@rtCafé Expert FIPS 64// G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	SDK	TBD	000000058

Note: The former key configuration ID 000000001, which corresponds to a different master key diversification method (not described in this document) and different KMC, is discontinued.

3.3.2 Contactless Key Management Configuration

As the process for handling contactless keys is still being processed, this section will be used as a placeholder for the future requirements associated with key management of contactless keys.

**Table 3-6
Contactless Product Configuration* and Key Config ID (Local)**

Card Manufacturer and Product	Key Class	Implementation Date	Key Configuration ID
Schlumberger Cyberflex Access 32k SM7v2 Axalto Cyberflex Access 64k v1 SM4v1 Gemplus GemTwin 64k v2	Contactless (no key)	DoD (Fall 03)	0000000017
Axalto Cyberflex Access 64k v1 SM4v1	PROD	DoD (TBD)	0000000019
Gemplus GemTwin 64k v2	PROD	DoD (TBD)	0000000020
Axalto Cyberflex Access 64k v1 SM4v1	TEST	DoD (TBD)	0000000021
Gemplus GemTwin 64k v2	TEST	DoD (TBD)	0000000022
Axalto Cyberflex Access 64k v1 SM4v1	APPDEV	DoD (TBD)	0000000023
Gemplus GemTwin 64k v2	APPDEV	DoD (TBD)	0000000024
Axalto Cyberflex Access 64k v1 SM4v1 Gemplus GemTwin 64k v2	SDK	DoD (TBD)	0000000025
Axalto Cyberflex Access 64k v1 SM4v1	Test	DoVA (Fall 04)	0000000028
Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoVA (Fall 04)	0000000029
Gemplus GemTwin 64k v1	Test	DoVA (Fall 04)	0000000039
Gemplus GemTwin 64k v1	App Dev	DoVA (Fall 04)	0000000040
Gemplus GemTwin 64k v1	Prod	DoVA (Fall 04)	0000000041
Gemplus GemTwin 64k v1	Test	DoI (Fall 04)	0000000042
Gemplus GemTwin 64k v1	App Dev	DoI (Fall 04)	0000000043
Gemplus GemTwin 64k v1	Prod	DoI (Fall 04)	0000000044
Gemplus GemTwin 64k v1	Test	NASA (Fall 04)	0000000045
Gemplus GemTwin 64k v1	App Dev	NASA (Fall 04)	0000000046
Gemplus GemTwin 64k v1	Prod	NASA (Fall 04)	0000000047
G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Test	TBD	0000000054
G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Prod	TBD	0000000055
Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K) (Hybrid and Dual Interface products)	Test	TBD	0000000056
Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K) (Hybrid and Dual Interface products)	Prod	TBD	0000000057

*Unless noted otherwise, all contactless products are GSC-IS 2.1 and ISO 14443 Type A compliant.

4. SMART CARD CONFIGURATION REQUIREMENTS

This section presents the required smart card configuration that must be implemented by the card manufacturer. For more details on the setup and initialization of smart card batches refer to Appendix B.

4.1. Requirements ID

As a smart card may consist of a card with more than one integrated circuit chip (ICC), each of these ICCs will require a specific ID to identify the composition of the chip. The general requirement ID will note format and chip memory for both contact and contactless chips. The code corresponding to the card requirements described in this section is as follows:

Table 4-1
Requirements ID (Global)

Properties		Requirements ID
<i>Legacy IDs</i>	32K EEPROM Contact Java Card/GP	0000000001
	64K EEPROM Contactless Java Card /GP 4K ISO 14443 Type A	0000000002
	32K EEPROM Contactless Java Card/GP	0000000003
	64K EEPROM Contact Java Card /GP	0000000004

Please Note: In the future there might be a change in the configuration of the card used in the smart card program (e.g. new version of OP) as such the coding listed above may change.

Table 4-2
Contact Card System

Parameter	Value	Description
List of possible run-time environments	JavaCard v2.1 JavaCard v2.2 (for applet v2 only)	One of the listed run-time environment must be present on the smart card
Global Platform support	2.01 Prime 2.1.1A <i>(Note: OP2.01 API preserved for Applet v2 only)</i>	The smart card must provide Open Platform services according to the specification outlined in Appendix A

**Table 4-3
Contactless Card System**

Parameter	Value
Communication Standard	ISO 14443 Type A
Authentication	DES/3DES Mutual Authentication
EEPROM	4k bytes

4.2. Card Product ID

Only specific smart card products offer the necessary logical platform to implement the smart card. A card product is identified with a code that is referred to in the batch order and shipping order delivery descriptors. Card Product IDs shall be unique through the system. The current card product IDs are defined as follows:

**Table 4-4
Card Product ID (Global)**

Card product	Card Product ID
Oberthur Galactic v1 32k	000000000
Schlumberger Cyberflex Access 32k v2 SM7v2	000000001
Oberthur CosmopolIC v4 32k	000000002
Gemplus GemXpresso PRO R3 64K FIPS v2 Normal ATR	000000003
Axalto Cyberflex Access 64k v1 SM2v1	000000004
Axalto Cyberflex Access 64k v1 SM4v1	000000005
Axalto Cyberflex Access 64k v2	000000006
Axalto Cyberflex Access 64k v1 SM4v1 DESFire 4k (Hybrid Card)	000000007
Axalto Cyberflex Access 64k v2 DESFire 4k (Hybrid Card)	000000008
Gemplus GemTwin 64k v1 DESFire 4k	000000009
G&D Sm@rtCafé Expert FIPS 64 v101 (2048-bit RSA)	000000010
G&D Sm@rtCafé Expert FIPS 64 DESFire 4K v101 (2048-bit RSA)	000000011
Oberthur ID-One Cosmo 64 v5.2	000000012
Oberthur ID-One Cosmo 64 v5.2 DESFIRE 4K	000000013
Oberthur ID-One Cosmo 64 V5.2 D (Dual Interface)	000000014
Oberthur hybrid card with ID-One Cosmo 32 v5.3 and Philips DESFIRE 4K	000000015
Axalto Cyberflex Access 64k v1 SM4v1 DESFire 4k (Hybrid Module)	000000016
Axalto Cyberflex Access 64k v2 DESFire 4k (Hybrid Module)	000000017
Gemplus GemXpresso PRO R3 64K FIPS v1 Normal ATR	000000018
Gemplus GemXpresso PRO R3 64K FIPS v2 Fast ATR	000000019
Gemplus GemTwin 64K v1 Normal DESFire 4K	000000020
Gemplus GemTwin 64K v2 Normal DESFire 4K	000000021

Gemplus GemTwin 64K v2 Fast DESFire 4K	0000000022
G&D Sm@rtCafé Expert FIPS 64 v102 (1024-bit RSA)	0000000023
G&D Sm@rtCafé Expert FIPS 64 DESFire 4K v102 (1024-bit RSA)	0000000024

4.3. Card Unique Identifier

4.3.1 Global Platform CUID

Concatenating four data fields from the Global Platform Card Production Life Cycle (CPLC) data in the following sequence forms a card unique identifier (CUID):

ICFabricatorID || ICType || ICBatchIdentifier || ICSerialNumber

Where:

- IC Fabricator ID
 - (2 bytes, CPLC data structure offset 0-1) (example 4090 Infineon)
- IC Type (2 bytes, CPLC data structure offset 2-3) (chip product type for the chip fabricator example: 5032 for Phillips)
- IC Batch Identifier (2 bytes, CPLC data structure offset 16-17)
- IC Serial Number (4 bytes, CPLC data structure offset 12-15)

It is important to ensure the uniqueness of each CUID. The card manufacturer must verify unique values for the IC Batch Identifier for each batch of the same IC type, and IC SN for each chip of the same batch.

For example, if the values of the four data fields in hexadecimal representation are:

ICFabricatorID	=	A0 03
IC Type	=	50 32
IC Batch Identifier	=	00 01
IC serial Number	=	00 01 23 45

The resulting string, in hexadecimal representation, is 10-byte long and has a value of: A003 5032 0001 0001 2345

4.3.2 Manufacturer Batch Serial Number

Because the manufacturing process may discard some cards, it is not guaranteed that smart card of the same stack will have consecutive CUIDs. For this reason, the card manufacturer must assign each smart card a batch serial number. The batch serial number is a sequential number (8 digits length) given to each smart card produced in a batch order. For example, an order of 75,000 cards will have batch serial numbers begin with 00000001 and end with 00075000.

The batch serial number is appended to the CUID on the card surface and included in the batch delivery descriptor and the Shipping Delivery descriptor (See Appendix C, Sections 3 and 5).

4.3.3 Contactless Serial Number (UID)

ISO 14443-3 states that a 7-byte serial number (UID) shall be preprogrammed into a locked portion of EEPROM on the PICC (contactless chip). This 7-byte UID will be used as the unique identifier for the contactless IC (Type A) and logged into the Batch Delivery Descriptor. The Dual Interface serial number is not discussed in the current specification and is reserved for future use (RFU).

4.4. Physical Description ID (Physical Configuration)

The smart card physical configuration defines the additional physical components and presentation elements which must be present on the smart card even though they are not provided by default by the card manufacturer. Each smart card physical configuration is identified with a code that is referred in the batch orders and batch delivery descriptors. The code corresponding to the smart card physical configuration described in this section is:

**Table 4-5
Physical Description ID (Global)**

	Card Physical Configuration	Physical Description ID
<i>Legacy IDs</i>	32K Contact Smart Card	0000000001
	64K Contact Smart Card	0000000002
	64K Hybrid (Contact/Contactless) Smart Card	0000000003
	32K Hybrid (Contact/Contactless) Smart Card	0000000004
<i>Reserved for Future Use</i>	Plain white smart card body	0000000005
	Specialized/longlife smart card body	0000000006
	Magnetic stripe	0000000007
	OVI	0000000008
	Additional surface printing	0000000009
	Background Color	0000000010

4.4.1 Smart Card Identification Printing on Surface

The Card Manufacturer name and Card product identifier and version MUST be printed on the smart card surface in ASCII representation. This information must be located above the magnetic stripe, on the back side, to the left of the CUID and batch serial number. Examples include:

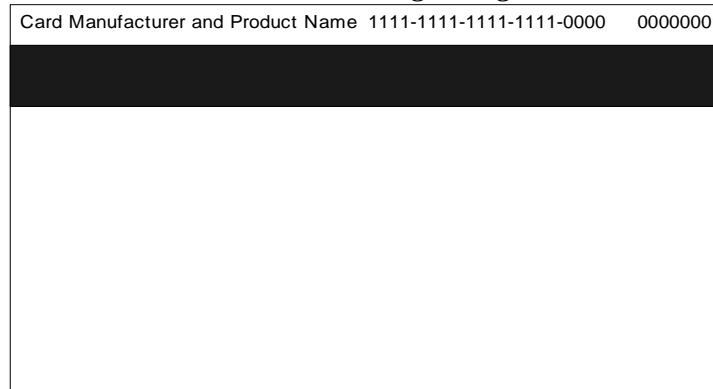
Axalto Cyberflex Access 64k v2 and Oberthur CosmopolIC v4.

The CUID and manufacturer batch serial number **MUST** be laser printed above the magnetic stripe, on the back side of the card, in the upper right corner on the smart card surface. The print must be in the ASCII representation in the following format:

<CUID> <Manufacturer Batch Serial Number>
A003-0010-0001-0001-2345 00000001

An example card with the correct card printing is depicted below in Exhibit 4-1.

Exhibit 4-1
Card Laser Engraving



4.4.2 Additional Physical Descriptors

The current product (smart card) has specific security features and a magnetic stripe. As time progresses the magnetic stripe will be removed and the security features may be updated. As such, the physical configuration IDs will be expanded to include these variables (to include personalization of card topology).

4.5. Logical Description ID

The logical configuration of the card includes the configuration of the Global Platform Card Manager with the injection of a Global Platform key set, and the download of the ActivCard applet packages, each including the code of one applet.

4.5.1 Global Platform Logical Description ID

Each smart card logical configuration is identified with a code that is referred in the batch orders and batch delivery descriptors. Any configuration changes (applet version change, etc.) will cause a change in the logical configuration code.

4.5.1.1 Open Platform Key Set

There is only one card manager Open Platform Key Set that must be loaded into a pre-issued smart card. The definition of the keys and the nature of the derivation algorithm are defined in the key management section of the document. Key set order is ENC, MAC, KEK

**Table 4-6
Open Platform Key Set**

Card Manufacturer	Card Product(s)	KeySet Version	KeySet Index
OCS	Oberthur CosmopolIC V4 32k	1	0
SLB/AXL	Schlumberger Cyberflex Access 32k v2 Axalto Cyberflex Access 64k v1 SM4v1/v2	1	1
GEM	Gemplus GemTwin 64k v1/ Gemplus GemXpresso Pro 64k	1	1
GDA	Giesecke & Devrient	1	1

4.5.1.2 Card Manager Configuration

**Table 4-7
Card Manager Configuration**

Parameter	Value
Card manager AID*	A0000000030000 or A000000003000000
Card manager OP State	SECURED
OPKeySet Master key	KMC_CM_<CMID>_<Customer>_<CLASS>_OPSC_<Version>
OP KeySet version	1
OP KeySet index	0 or 1

***Note:** For all FIPS v1 customers (except DoD) the Gemplus Card Manager AID is A000000018434D

4.5.1.3 Secure transmission of approved DoD applets to Card Manufacturer

The card issuer will transmit the FIPS approved applets to the card manufacturer via encrypted e-mail. Applets are only considered approved if they are sent from an approved (government) card issuer representative). This is described in Section B.1.2.

Note:

Only FIPS approved (and card issuer provided) applets can be loaded onto the card. Otherwise the card may no longer be FIPS certified.

4.5.1.4 Applet Package Download

The card manufacturer currently loads the following applets through the card manager for the DoD version 1 and 2 applets. The integrity of each package must be checked after the exchange occurred.

**Table 4-8
Package Download Order**

Applet Version	Value	Applet Package AID*
DoD V1	1	ID Package must be downloaded first onto the card
	2	GC package must be downloaded after the ID package
	3	PKI package must be downloaded after the GC applet package
DoD V2.3 Federal V2.5	1	ASCLIB package
	2	ACA package
	3	GCPKI package

Note:

As the Logical Configuration ID has become a local ID the only defined applet version is for no applets and legacy DoD applets (to include the FIPS 140-2 L2 (v2.3)). The v2 framework used on 64k cards outside of DoD (to include FIPS 140-2 L3 certification level (v2.5) has not been assigned a logical ID and must be defined individually by each agency.

The characteristic of each package, for each manufacturer, is defined as follows:

**Table 4-9
Logical Configuration IDs (Local)**

Card Type	Applet Type	Applet Type	Applet Package AID*	Version	Logical Configuration ID
Oberthur Galactic v1 32k	NA	ID	A00000007903	1.0.0.9	000000000
		GC	A00000007902	1.0.0.14	
		PKI	A00000007901	1.0.0.9	
Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM2v1 Axalto Cyberflex Access 64k v1 SM4v1	DoD v1 Applet	ID	A00000007903	1.0.0.14	000000001
		GC	A00000007902	1.0.0.20	
		PKI	A00000007901	1.0.0.14	
Oberthur CosmopolIC v4.0 32k	DoD v1 Applet	ID	A00000007903FE13	1.0.0.19	000000002
		GC	A00000007902FE17	1.0.0.23	
		PKI	A00000007901FE15	1.0.0.21	
Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM2v1 Axalto Cyberflex Access 64k v1 SM4v1 Axalto Cyberflex Access 64k v2	No applets				000000003
Gemplus GemTwin 64k v1	DoD v1	ID	A00000007903FE010D0013	1.0.0.19	000000004

Card Type	Applet Type	Applet Type	Applet Package AID*	Version	Logical Configuration ID
Gemplus GemXpresso Pro 64k	Applet	GC	A00000007902FE010D0017	1.0.0.23	
		PKI	A00000007901FE010D0012	1.0.0.18	
Axalto Cyberflex Access 64k v1 SM4v1	DoD v1 Applet	ID	A00000007903	1.0.0.14	000000005
		GC	A00000007902	1.0.0.20	
		PKI	A00000007901	1.0.0.14	
Gemplus GemTwin 64k v1/ Gemplus GemXpresso Pro 64k	No applets				000000006
Gemplus GemTwin 64k v1/ Gemplus GemXpresso Pro 64k	DoD v2 Applet	ASC Library	A00000007911FE02030003	2.3.0.3	000000007
		ACA Applet	A00000007910FE02030004	2.3.0.4	
		PKI/GC Applet	A00000007901FE02030101	2.3.1.1	
Axalto Cyberflex Access 64k v1 SM4v1 Axalto Cyberflex Access 64k v2	DoD v2 Applet	ASC Library	A00000007911FE02030003	2.3.0.3	000000008
		ACA Applet	A00000007910FE02030004	2.3.0.4	
		PKI/GC Applet	A00000007901FE02030101	2.3.1.1	
G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 DESFire 4K	DoD v2 Applet	ASC Library	A00000007911FE02030003	2.3.0.3*	000000013
		ACA Applet	A00000007910FE02030004	2.3.0.4*	
		PKI/GC Applet	A00000007901FE02030101	2.3.1.1*	
Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 DESFIRE 4K (Hybrid)/ Oberthur ID-One Cosmo 64 V5.2 DESFIRE 4K (Dual Interface)	DoD v2 Applet	ASC Library	A00000007911FE02030003	2.3.0.3*	000000014
		ACA Applet	A00000007910FE02030004	2.3.0.4*	
		PKI/GC Applet	A00000007901FE02030101	2.3.1.1*	

Card Type	Applet Type	Applet Type	Applet Package AID*	Version	Logical Configuration ID
G&D Sm@rtCafé Expert FIPS 64/ G&D Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 DESFIRE 4K (Hybrid)/ Oberthur ID-One Cosmo 64 V5.2 DESFIRE 4K (Dual Interface)			No applets		0000000015
G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 DESFire 4K			No applets		0000000016

**Note:* The version number of the applet may change and cannot be confirmed until final FIPS validation has completed.

4.5.1.5 Applet Instances

No applet instances need to be installed in pre-issued smart cards.

4.5.2 **DESFire Logical Configuration ID**

Phillips DESFire is an implementation of ISO 14443 Type A capable of DES and 3DES encrypted authentication and messaging.

**Table 4-10
DESFire Logical Configuration ID (Local)**

Card Type	Logical Configuration ID
Schlumberger Cyberflex Access 32k v2 SM7v2	0000000009
Gemplus GemTwin 64k v1	0000000010
Axalto Cyberflex Access 64k v1 SM4v1	0000000011
Axalto Cyberflex Access 64k v2	0000000012
Oberthur ID-One Cosmo 64 V5.2 DESFIRE	0000000017
G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 DESFire 4K	0000000018

No application initialization/pre-personalization is currently required.

1

4.6. **ChipPersonalization ID**

Note: In the future, DoD may require that card manufacturers to personalize the ICC with DoD Specific information.

5. SMART CARD ADMINISTRATIVE AND PACKAGING REQUIREMENTS

5.1. Schema Version

As the XML schema is modified, changes will be tracked using the Schema Version data element.

Table 5-1
XML Schema Version (Global)

Pre-Issuance Spec	XML Schema Version Code
Pre-Issuance Spec 4.1	0000000002

5.2. Customer ID

As a card issuer may place orders for multiple other agencies, a customer ID will be used to denote which government entity the order will be placed for. The format will be a four digit abbreviates followed by a hyphenated number.

Table 5-2
Customer ID (Global)

Customer	Customer ID #
Department of Defense (DoD)	DMDC-01
Department of Interior (DoI)	DOI-02
National Aeronautics and Space Administration (NASA)	NASA-03
Department of Veteran's Affairs (DoVa)	DoVA-04
Department of Homeland Security (DHS)	DoHS-05
Department of State (DoS)	DoS-06
Department of Transportation (DoT)	DoT-07
Transportation Security Administration (TSA)	TSA-08
General Services Administration (GSA)	GSA-09
State A	-10
State B	-11
State C	-12
State D	-13
State E	-14
State F	-15

5.3. Task and Purchase Order Tags

To aid Industry in managing the various orders received from various card manufacturers two additional tags have been added to the XML Schema. These tags (Task and Purchase Order) will be for card manufacturer use only and will not be populated or utilized by the card issuer in the near term.

```
<TaskOrder>alphanumeric value</TaskOrder>  
<PurchaseOrder >alphanumeric value</ PurchaseOrder >
```

5.4. Smart Card Packaging Requirements

This section specifies how smart card must be packaged before being sent to the Card Issuer or Card Issuer issuance sites.

5.4.1 Package Configuration ID (XML)

Each smart card packaging configuration is identified with a code that is referred to in the XML descriptors (see Appendix C). The codes corresponding to the smart card packaging configuration described in this section are:

Table 5-1
Package Configuration ID (Global)

Stack Size	Package Configuration ID
Full Stack (100 Cards)	0000000001
Sample Stack (5 cards)	0000000002

5.4.2 Smart Card Packaging

5.4.2.1 Stack Labeling

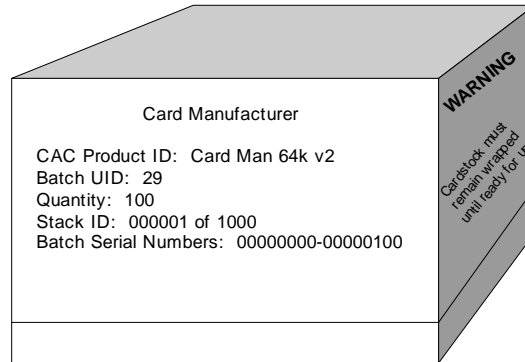
Each stack (container) will contain an external label that is clearly visible on the external surface of the stack. The labels will include the following items (at a minimum):

- Manufacturer name: (OCS V4 32K, AXL V2 64K, etc.)
- Smart Card Product ID (See Section 4.2.: Smart Card product ID)
- Batch UID (Appendix B)
- Stack ID number (as defined above)

- Batch Serial Numbers
- Quantity in the stack

This label will be located in a location that is viewable without requiring the card issuer to unseal the sealed stack. An example is noted below in Exhibit 5-1.

Exhibit 5-1
External Smart Card Container Label



5.4.2.2 Stack & Shipping Carton Packaging

Each box (or stack) of Smart cards must be packaged so that each stack lists an unique stack ID (within each batch) for each container. The cardstock must be packaged so that the full CUID and batch serial number of either the first or last card of the stack is visible through the sealed stack. Example: Batch Order 1 for 100,000 smart cards will have 1000 unique stack IDs (1 - 1000) with 100 cards contained within each stack.

Upon receipt of the SOD, the card manufacturer will ship the cardstock in cartons that most efficiently ship the requested quantity of cardstock. On average, Card Manufacturer’s shipping cartons accommodate for shipments of 4 stacks, 10 stacks, or 18 stacks. The below example depicts suggested package configurations for three different SODs.

Table 5-2
Carton Packing Configurations

Cardstock Requested	Suggested Packaging
600	One 10 stack container (w/filler) or two 4 stacks with Filler (whichever ships cheaper)
1,600	One 18 stack container (w/filler)
10,000	One 18 stack Container & one 10 stack container

Stacks are to be placed within the cartons in stack order (i.e. the stacks shipped in SOD/SDD 4 should precede those stacks listed in SOD/SDD 6).

Note: The DoD packaging requirement for stack container and shipping cartons is that cardstock must be securely packed. If cardstock within stack is able to sort or shift, card manufacturer must use filler (prior to sealing stack) to ensure that stack remains stable. Also when packaging cartons, stacks must be securely packed so that little to no shifting will occur within the carton during transit (whether continental US or overseas shipments).

5.4.3 Shipping, Tracking, and Delivery timeframes

The SOD will note expected delivery date and the shipment delivery period (2, 3, 5 day or other) for each batch shipped. Card Manufacturers will include in the SDD the master tracking number for shipments containing multiple packages.

5.4.4 International Shipping

Heightened Security concerns have yielded a new requirement that all cardstock shipped outside of the United States (i.e. our Europe and Asia locations) include a letter for Customs officials. This letter (Appendix G) notes that the product being shipped is for official government use only and is being provided in accordance with an agreed upon government contract. Card Manufacturer's must include this letter along with the packages invoice and must amend the letter to include their official shipping address and the Fed Ex Tracking Number used for that specific package.

Card Manufacturer's are also required to clearly mark (using either stamp or label) on the package's exterior "For official US Govt use only".

Finally, Card Manufacturer's are to send a confirmation e-mail to the Government Entity POCs noting the Fed Ex tracking number of the international package as soon as it is shipped so that the Government Entity overseas office's can ensure timely receipt of the package.

6. BATCH MANAGEMENT REQUIREMENTS

This section describes the requirements for managing batches of cardstock and the interface to the Government Entity Inventory POC. For more details on the batch setup and card inventory processing refer to Appendix B.

6.1. Batch Configuration

The configuration of card batches corresponds to the specification in the previous document sections:

**Table 6-1
Master Batch Configuration Chart**

Document Section	Specification	Requirement	Value
5.1.	Schema Version	Pre-Issuance Spec 4.1	0000000002
5.2.	Customer ID	Department of Defense (DoD)	DMDC-01
		Department of Interior (DoI)	DOI-02
		National Aeronautics and Space Administration (NASA)	NASA-03
		Department of Veteran's Affairs (DoVa)	DoVA-04
		Department of Homeland Security (DHS)	DoHS-05
		Department of State (DoS)	DoS-06
		Department of Transportation (DoT)	DoT-07
		Transportation Security Administration (TSA)	TSA-08
		General Services Administration (GSA)	GSA-09
4.2.	Card Product ID	Oberthur Galactic v1 32K	0000000000
		Schlumberger Access 32K v2 SM7v2	0000000001
		Oberthur CosmopolIC v4 32K	0000000002
		Gemplus GemXpresso PRO 64K	0000000003
		Axalto Cyberflex Access 64k v1 SM2v1	0000000004
		Axalto Cyberflex Access 64k v1 SM4v1	0000000005
		Axalto Cyberflex Access 64k v2	0000000006
		Axalto Cyberflex Access 64k v1 SM4v1 HYBRID	0000000007
		Axalto Cyberflex Access 64k v2 HYBRID	0000000008
		Gemplus GemTwin 64k v1 HYBRID	0000000009
		G&D Sm@rtCafé Expert FIPS 64 v101 (2048-bit RSA)	0000000010
		G&D Sm@rtCafé Expert FIPS 64 DESFire 4K v101 (2048-bit RSA)	0000000011
		Oberthur ID-One Cosmo 64 v5.2	0000000012
Oberthur ID-One Cosmo 64 v5.2 DESFIRE 4K	0000000013		

Document Section	Specification	Requirement	Value
		Oberthur ID-One Cosmo 64 V5.2 D (Dual Interface)	0000000014
		Oberthur hybrid card with ID-One Cosmo 32 v5.3 and Philips DESFIRE 4K	0000000015
		Axalto Cyberflex Access 64k v1 SM4v1 DESFire 4k (Hybrid Module)	0000000016
		Axalto Cyberflex Access 64k v2 DESFire 4k (Hybrid Module)	0000000017
		Gemplus GemXpresso PRO R3 64K FIPS v1 Normal ATR	0000000018
		Gemplus GemXpresso PRO R3 64K FIPS v2 Fast ATR	0000000019
		Gemplus GemTwin 64K v1 Normal DESFire 4K	0000000020
		Gemplus GemTwin 64K v2 Normal DESFire 4K	0000000021
		Gemplus GemTwin 64K v2 Fast DESFire 4K	0000000022
		G&D Sm@rtCafé Expert FIPS 64 v102 (1024-bit RSA)	0000000023
		G&D Sm@rtCafé Expert FIPS 64 DESFire 4K v102 (1024-bit RSA)	0000000024
4.1.	Requirements ID	32K EEPROM Contact Java Card/GP	0000000001
		64K EEPROM Contactless Java Card /GP 4K ISO 14443 Type A	0000000002
		32K EEPROM Contactless Java Card/GP	0000000003
		64K EEPROM Contact Java Card /GP	0000000004
5.4.1	Package Config ID	Full Stack (100)	0000000001
		Sample Stack (5)	0000000002
4.4	Physical Description ID	32K Contact Smart Card	0000000001
		64K Contact Smart Card	0000000002
		64K Hybrid (Contact/Contactless) Smart Card	0000000003
		32K Hybrid (Contact/Contactless) Smart Card	0000000004
		Plain white smart card body	0000000005
		Specialized/longlife smart card body	0000000006
		Magnetic stripe	0000000007
		OVI	0000000008
		Additional surface printing	0000000009
		Background Color	0000000010
4.5.	Logical Description ID	Oberthur Galactic 32K V1	NA
		Schlumberger Access 32K v2 SM7v2 Axalto Cyberflex Access 64k v1 SM2v1 Axalto Cyberflex Access 64k v1 SM4v1	DoD v1.0 Applet
		Oberthur CosmopolIC 32K v4	DoD v1.0 Applet

Document Section	Specification	Requirement			Value
		Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM2v1 Axalto Cyberflex Access 64k v1 SM4v1 Axalto Cyberflex Access 64k v2	No applets		000000003
		Gemplus GemTwin 64k v1/ Gemplus GemXpresso Pro 64k	DoD v1.0 Applet		000000004
		Axalto Cyberflex Access 64k v1	DoD v2.0 Applet		000000005
		Gemplus GemTwin 64k v1/ Gemplus GemXpresso Pro 64k	No Applets		000000006
		Gemplus GemTwin 64k v1/ Gemplus GemXpresso Pro 64k	DoD v2.0 Applet		000000007
		Axalto Cyberflex Access 64k v2	DoD v2.0 Applet		000000008
		Schlumberger Cyberflex Access 32k v2 SM7v2	Contactless		000000009
		Gemplus GemTwin 64k v1	Contactless		000000010
		Axalto Cyberflex Access 64k v1 SM4v1	Contactless		000000011
		Axalto Cyberflex Access 64k v2	Contactless		000000012
		G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 DESFire 4K	DoD v2 Applet		000000013
		Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 DESFIRE 4K (Hybrid)/ Oberthur ID-One Cosmo 64 V5.2 DESFIRE 4K (Dual Interface)	DoD v2 Applet		000000014
		G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 DESFire 4K Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 DESFIRE 4K (Hybrid)/ Oberthur ID-One Cosmo 64 V5.2 DESFIRE 4K (Dual Interface)	No applets		000000015
		G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 DESFire 4K	No applets		000000016
		Oberthur ID-One Cosmo 64 V5.2 DESFIRE	Contactless		000000017
		G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 DESFire 4K	Contactless		000000018
3.3.	Key Config ID	Schlumberger Cyberflex Access 32k v2 SM7v2	Prod and Test	DoD (Aug 01)	000000001
		Oberthur CosmopolIC v4 32k	Prod and Test	DoD (Aug 02)	000000002
		Schlumberger Cyberflex Access 32k v2 SM7v2	Test	DoD (Sep 02)	000000002

Document Section	Specification	Requirement			Value
		Oberthur CosmopolIC v4 32k	Prod	DoD (Jan 03)	0000000003
		Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoD (Feb 03) DoD (May 03)	0000000004
		Oberthur CosmopolIC v4 32k	Test	DoD (Jan 03)	0000000005
		Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM4v1	Test	DoD (Feb 03) DoD (May 03)	0000000006
		Oberthur CosmopolIC v4 32k	App Dev	DoD (Jan 03)	0000000007
		Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM4v1	App Dev	DoD (Feb 03) DoD (May 03)	0000000008
		Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	Prod	DoD (TBD)	0000000009
		Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoD (Aug 03)	0000000010
		Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	Test	DoD (TBD)	0000000011
		Axalto Cyberflex Access 64k v2	Test	DoD (Aug 03)	0000000012
		Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	App Dev	DoD (TBD)	0000000013
		Axalto Cyberflex Access 64k v2	App Dev	DoD (Aug 03)	0000000014
		Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM4v1 Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	SDK	DoD (May 03)	0000000015
		Axalto Cyberflex Access 64k v2	Prod	DoD (Aug 03)	0000000016
		Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoI (July 03)	0000000018
		Axalto Cyberflex Access 64k v1 SM4v1	Test	DoVA (Fall 04)	0000000026
		Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoVA (Fall 04)	0000000027

Document Section	Specification	Requirement			Value
		Gemplus GemTwin 64k v1	Test	DoVA (Fall 04)	0000000030
		Gemplus GemTwin 64k v1	App Dev	DoVA (Fall 04)	0000000031
		Gemplus GemTwin 64k v1	Prod	DoVA (Fall 04)	0000000032
		Gemplus GemTwin 64k v1	Test	DoI (Fall 04)	0000000033
		Gemplus GemTwin 64k v1	App Dev	DoI (Fall 04)	0000000034
		Gemplus GemTwin 64k v1	Prod	DoI (Fall 04)	0000000035
		Gemplus GemTwin 64k v1	Test	NASA (Fall 04)	0000000036
		Gemplus GemTwin 64k v1	App Dev	NASA (Fall 04)	0000000037
		Gemplus GemTwin 64k v1	Prod	NASA (Fall 04)	0000000038
		Schlumberger Cyberflex Access 32k v2 SM7v2	Prod	TBD	0000000048
		Axalto Cyberflex Access 64k v1 SM4v1	Test	TBD	0000000049
		G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Test	TBD	0000000050
		G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Prod	TBD	0000000051
		Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K) (Hybrid and Dual Interface products)	Test	TBD	0000000052
		Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K)/ Oberthur ID-One Cosmo 64 v5.2 Dual	Prod	TBD	0000000053
		Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K) (Hybrid and Dual Interface products) G&D Sm@rtCafé Expert FIPS 64// G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K	SDK	TBD	0000000058
		Contactless			

Document Section	Specification	Requirement			Value
		Schlumberger Cyberflex Access 32k SM7v2 Axalto Cyberflex Access 64k v1 SM4v1 Gemplus GemTwin 64k v2	Contact less (no key)	DoD (Fall 03)	0000000017
		Axalto Cyberflex Access 64k v1 SM4v1	PROD	DoD (TBD)	0000000019
		Gemplus GemTwin 64k v2	PROD	DoD (TBD)	0000000020
		Axalto Cyberflex Access 64k v1 SM4v1	TEST	DoD (TBD)	0000000021
		Gemplus GemTwin 64k v2	TEST	DoD (TBD)	0000000022
		Axalto Cyberflex Access 64k v1 SM4v1	APPD EV	DoD (TBD)	0000000023
		Gemplus GemTwin 64k v2	APPD EV	DoD (TBD)	0000000024
		Axalto Cyberflex Access 64k v1 SM4v1 Gemplus GemTwin 64k v2	SDK	DoD (TBD)	0000000025
		Axalto Cyberflex Access 64k v1 SM4v1	Test	DoVA (Fall 04)	0000000028
		Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoVA (Fall 04)	0000000029
		Gemplus GemTwin 64k v1	Test	DoVA (Fall 04)	0000000039
		Gemplus GemTwin 64k v1	App Dev	DoVA (Fall 04)	0000000040
		Gemplus GemTwin 64k v1	Prod	DoVA (Fall 04)	0000000041
		Gemplus GemTwin 64k v1	Test	DoI (Fall 04)	0000000042
		Gemplus GemTwin 64k v1	App Dev	DoI (Fall 04)	0000000043
		Gemplus GemTwin 64k v1	Prod	DoI (Fall 04)	0000000044
		Gemplus GemTwin 64k v1	Test	NASA (Fall 04)	0000000045
		Gemplus GemTwin 64k v1	App Dev	NASA (Fall 04)	0000000046
		Gemplus GemTwin 64k v1	Prod	NASA (Fall 04)	0000000047

Document Section	Specification	Requirement			Value
		G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Test	TBD	0000000054
		G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Prod	TBD	0000000055
		Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K) (Hybrid and Dual Interface products)	Test	TBD	0000000056
		Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K) (Hybrid and Dual Interface products)	Prod	TBD	0000000057

6.2. Batch Management Process

The following narrative introduces the batch management process, and explains how smart cards are ordered from the card manufacturer and delivered to the smart card issuance sites.

1. The Government Inventory POC submits the Smart Card Batch Orders Descriptors (BODs) via e-mail to the Card Manufacturer.
2. The card manufacturer fulfills the order in accordance with the BOD and upon production of the batch of smart cards, stores the batch in the card manufacturer's vault (it is assumed that there is one and only one vault per card manufacturer where these cards will be stored).
3. The Card Manufacturer sends the Batch Delivery Descriptor to the Government Entity Inventory POC by email within 24 hours of shipping the cardstock to the vault.
4. The Government Entity Inventory POC sends an e-mail to the Card Manufacturer containing the Shipping Orders Descriptors (SOD). The SOD contains the site address and contact information of the site where the cardstock is to be delivered.
5. The Card Manufacturer delivers the corresponding cardstock to the location specified in the SOD via the carrier and delivery timeframe noted in the SOD.
6. The Card Manufacturer sends a Shipping Delivery Descriptor (SDD) to the Government Entity Inventory POC within 24hrs of shipping the cardstock.

6.3. Transmission of XML Descriptors

The Government Entity and the card manufacturer will exchange a number of XML descriptors via e-mail. The transmission process between other government entities will be documented in their amended documentation.

6.3.1 Batch/ Shipping Order Descriptors

The Government Entity and the card manufacturer will agree on the transmission method of the XML order descriptors. The options available are to submit the file via ftp, email, or CD with the XML message being unencrypted or encrypted or sent programmatically with a web-based interface proposed by the card issuer and agreed / integrated by the card manufacturer. The preferred file transmission method is via email. The e-mail exchange will be as follows:

- The Government will send BOD/SOD XML file to card manufacturer's via e-mail
- The Subject line will state

<CMID> BOD <number> or <CMID> SOD <number>

Example subject line: AXL BOD 001 or OCS SOD 001

Note: Definition for CMID corresponds with those previously defined in 3.2.3.

6.3.2 Batch/ Shipping Delivery Descriptors

The Government and the card manufacturer will agree on the transmission method of the XML delivery descriptors.

DoD has chosen to use a group e-mail account for notification of all orders and the below example notes the procedure to be followed for DoD XML transmissions:

- Card Manufacturer's will e-mail DMDC / DMDC Support team members BDD/SDD XML files.
 - BDDs will be e-mailed to the cacorders@osd.pentagon.mil e-mail account and the subject line will state **<CMID> BDD <number>**
 - SDDs will be e-mailed to the cacshipments@osd.pentagon.mil e-mail accounts and the subject line will state **<CMID> SDD <number>**

Example subject line: OCS BDD 001 or GEM SDD 001

BDDs and SDDs are to be delivered to the card issuer, via e-mail, within one business day of the card manufacturer storing cardstock in the vault or shipping cardstock from the vault. Failure to comply with timelines may lead to costly timelines within the Card Issuer's infrastructure which will be passed onto the card manufacturer and GSA Prime.

6.3.3 Use of W3C XML signature and encryption standard

Note: This section is for future use. Timelines will be coordinated and agreed upon by card issuer and card manufacturer prior to implementation.

Enveloped XML signature is used to provide integrity and data authentication of the XML order and delivery descriptor file.

- The XML signature is generated over the entire XML file before it is signed as an enveloped signature

- The XML signature is an optional item, so it may or may not be generated as part of the XML descriptor file
- Certificate information are exchanged via the XML files
- The sample XML file uses RSA with PKCS#1 as the algorithm for signature generation and SHA-1 as the hash algorithm. X.509 certificate is used to provide the signer verification.
- Other digital signature algorithm can also be used and it must correspond to the algorithm specified by the digital certificate.
- XML signature verification can be implemented by the receiving party as a stand alone utility or integrated into the card management system.

The version of the W3C XML Digital Signature schema used is the following:

- W3C XML signature specification used: <http://www.w3.org/TR/xmlsig-core/>
- W3C XML signature schema used: <http://www.w3.org/TR/xmlsig-core/xmlsig-core-schema.xsd>

As the XML digital signature schema consists of many data types and other schemas, they are not listed in the data type matrix.

6.3.4 Rejection of Batch/Shipping Orders Descriptors

APPENDIX A - CRYPTOGRAPHIC ALGORITHMS SPECIFICATIONS

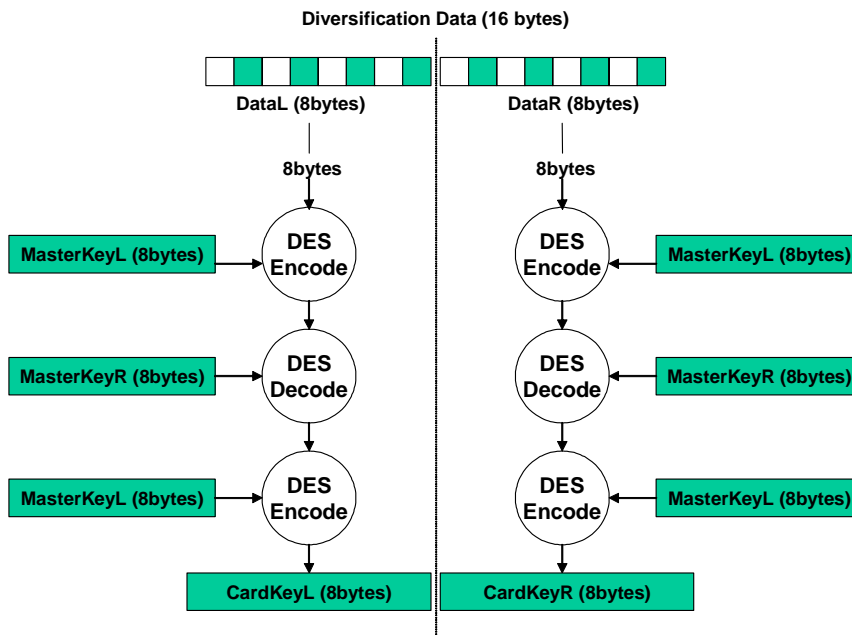
A.1 Triple DES Key Derivation

Table A-1
Triple DES Key Derivation

Function:	Generation inside the HSM of a double length DES key by derivation of a double length (16 bytes) DES key and 16 bytes of diversification data.
Input (diversification) Data:	16 bytes divided into two blocks of 8 bytes.
Derivation key:	A double length (16 bytes) DES key.
Output:	A double length DES key in the HSM.

Exhibits A-2 shows the computation. The below exhibit depicts the Master Set Key Diversification Process.

Exhibit A-1
Master Key Set Diversification



A.2 XOR Key Derivation

Table A-2
XOR Key Derivation

Function:	Generation inside the HSM of a double length DES key by derivation of a double length DES key and a 16 byte key component.
Input Data:	16 byte string randomly generated.
Derivation key:	A double length DES key.
Output:	A double length (16 bytes) DES key in the HSM.

The computation is: $TK_{i+1} = \text{XOR}(TK_i, TKC)$. Where TK_{i+1} represents the output key and TK_i the input key.

A.3 Triple DES ECB

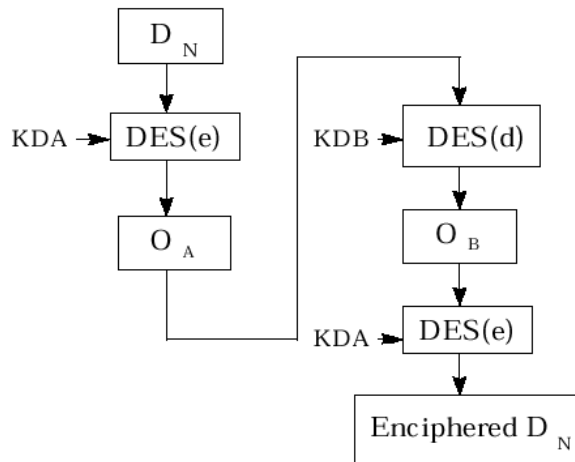
Table A-3
Triple DES ECB

Function:	Triple DES encryption of data in ECB mode with a double length DES key.
Data:	Data to be encrypted in blocks of 8 bytes (D_N).
Encryption key:	A double length DES key.
Output:	Encrypted data with a length multiple of 8 bytes.

The computation is: $KD = (KDA | KDB)$

Result = encrypt (KDA) [decrypt (KDB) {encrypt (KDA) [D_N] }]

Exhibit A-2



Note: Symmetric computation is used for decryption as follows:

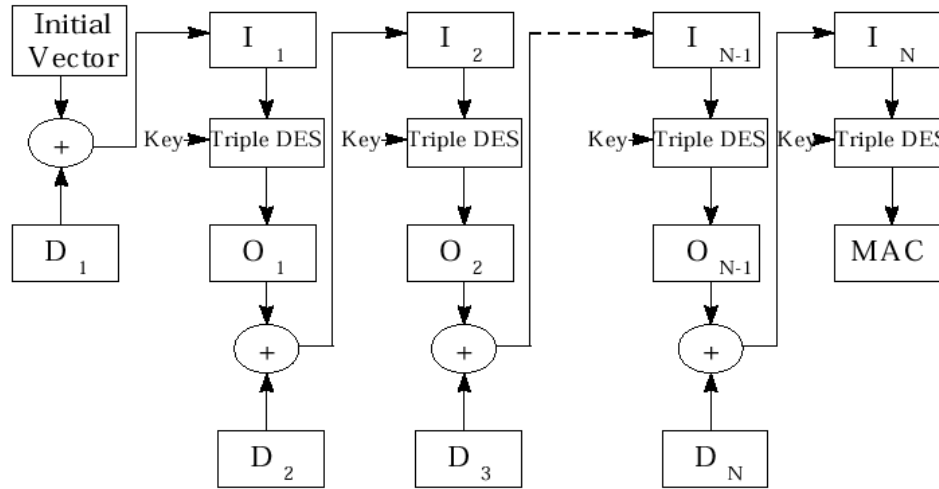
$$\text{Result} = \text{decrypt (KDA) [encrypt (KDB) \{decrypt (KDA) [D_N]\}]}]$$

A.4 Triple DES CBC

Table A-4
Triple DES CBC

Function:	Triple DES encryption of data in CBC mode with a double length DES key.
Initial vector:	8 bytes of hexadecimal zeroes.
Data:	Data to be signed with a length multiple of 8 bytes.
Encryption key:	A double length DES key.
Output:	Encrypted data with a length multiple of 8 bytes.

Exhibit A-3



The computation for each block D_i of 8 bytes of data is:

$$KD = (KDA | KDB)$$

$$O_i = \text{encrypt}(KDA) [\text{decrypt}(KDB) \{ \text{encrypt}(KDA) [D_i \text{ XOR } O_{i-1}] \}]$$

Note: Symmetric computation is used for decryption of each block D_i of 8 bytes of encrypted data as follows: $O_i = \{ \text{decrypt}(KDA) [\text{encrypt}(KDB) \{ \text{decrypt}(KDA) [D_i] \}] \} \text{ XOR } O_{i-1}$

A.5 Key Parity Bits

The transport key and the components have to respect an odd parity on each byte:

Byte notation: $K = K1 \ K2 \ K3 \ K4 \ K5 \ K6 \ K7 \ K8 \ K9 \ K10 \ K11 \ K12 \ K13 \ K14 \ K15 \ K16$

Bit notation: $K_i = Ki1 \ Ki2 \ Ki3 \ Ki4 \ Ki5 \ Ki6 \ Ki7 \ Ki8$

For $i = 1$ to 8

If $\text{BinarySum}(Ki1+Ki2+Ki3+Ki4+Ki5+Ki6+Ki7+Ki8) \langle \rangle 1$

Add 1 to $Ki8$ (Add binary)

End-if

End-For

A.6 Key Check Value

A 24-bit Key check Value (KCV) MUST be computed by wrapping with a Transport Key Component a bit-string of 64 "0" bits and taking the first 3 bytes on the left of the result as follows:

$O = O_1 O_2 \dots O_8$ where each byte $O_i = 0$

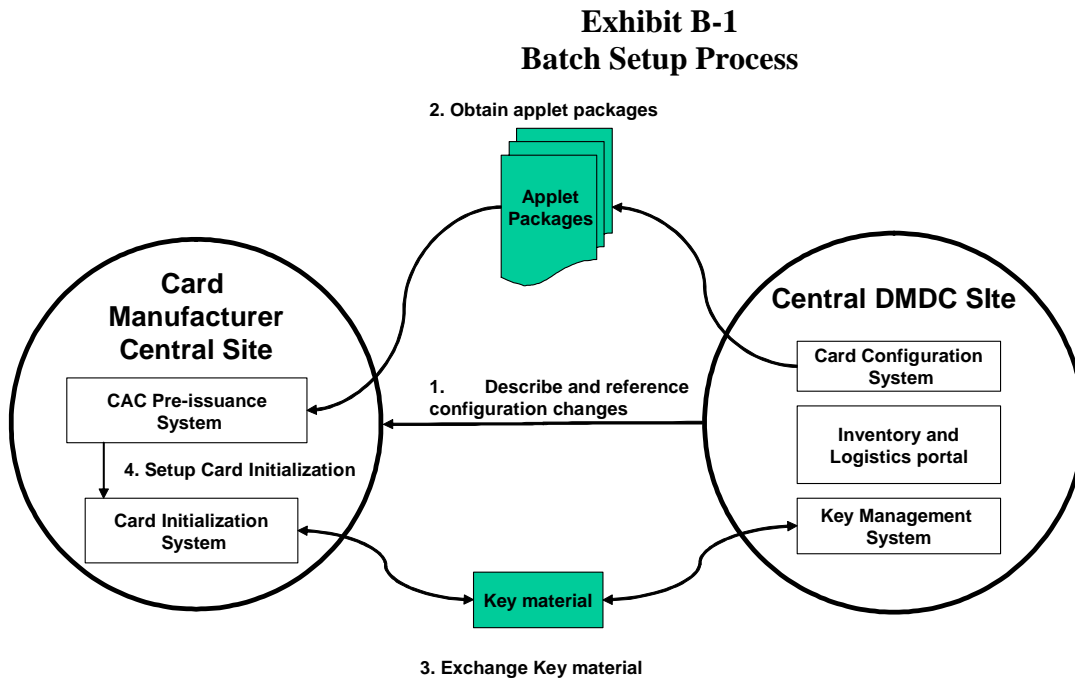
$R = R_1 R_2 \dots R_8 = 3\text{DESECB}_{\text{TKC}}(O)$ where TKC is a transport key component with odd parity bits.

$KCV = R_1 R_2 R_3$

APPENDIX B - BATCH CONFIGURATION SPECIFICATIONS

B.1 Setup: Batch Configuration

This diagram, Figure 4, illustrates the batch setup process. Each step in the diagram is described in a separate section below.



B.1.1. Setup: Describe and Reference Configuration changes

The Card Issuer informs the manufacturer the planned configuration changes via revisions to the Pre-Issuance Specifications document. The following configurations are managed independently:

- Physical Description ID
- Logical Description ID
- Requirements ID
- Card Product ID
- Package Config ID
- Customer ID

- Key Config ID

Each of these configurations is referenced with a 5-digit configuration number starting with 0000000001. The number is reported in the Batch orders, batch delivery descriptors, the Shipping Orders and Shipping Delivery descriptors XML files. The Current smart card configurations are as follows:

Table B-1
Master Batch Configuration Chart and Global/Local IDs

Document Section	Specification	Global or Local ID	Requirement	Value
5.1.	Schema Version	Global	Pre-Issuance Spec 4.1	0000000002
5.2.	Customer ID	Global	Department of Defense (DoD)	DMDC-01
			Department of Interior (DoI)	DOI-02
			National Aeronautics and Space Administration (NASA)	NASA-03
			Department of Veteran's Affairs (DoVa)	DoVA-04
			Department of Homeland Security (DHS)	DoHS-05
			Department of State (DoS)	DoS-06
			Department of Transportation (DoT)	DoT-07
			Transportation Security Administration (TSA)	TSA-08
			General Services Administration (GSA)	GSA-09
4.2.	Card Product ID	Global	Oberthur Galactic v1 32K	0000000000
			Schlumberger Access 32K v2 SM7v2	0000000001
			Oberthur CosmopolIC v4 32K	0000000002
			Gemplus GemXpresso PRO 64K	0000000003
			Axalto Cyberflex Access 64k v1 SM2v1	0000000004
			Axalto Cyberflex Access 64k v1 SM4v1	0000000005
			Axalto Cyberflex Access 64k v2	0000000006
			Axalto Cyberflex Access 64k v1 SM4v1 HYBRID	0000000007
			Axalto Cyberflex Access 64k v2 HYBRID	0000000008
			Gemplus GemTwin 64k v1 HYBRID	0000000009
			G&D Sm@rtCafé Expert FIPS 64 v101 (2048-bit RSA)	0000000010
			G&D Sm@rtCafé Expert FIPS 64 DESFire 4K v101 (2048-bit RSA)	0000000011
			Oberthur ID-One Cosmo 64 v5.2	0000000012
			Oberthur ID-One Cosmo 64 v5.2 DESFIRE 4K	0000000013
			Oberthur ID-One Cosmo 64 V5.2 D (Dual Interface)	0000000014
Oberthur hybrid card with ID-One Cosmo 32 v5.3 and Philips DESFIRE 4K	0000000015			

Document Section	Specification	Global or Local ID	Requirement	Value
			Axalto Cyberflex Access 64k v1 SM4v1 DESFire 4k (Hybrid Module)	0000000016
			Axalto Cyberflex Access 64k v2 DESFire 4k (Hybrid Module)	0000000017
			Gemplus GemXpresso PRO R3 64K FIPS v1 Normal ATR	0000000018
			Gemplus GemXpresso PRO R3 64K FIPS v2 Fast ATR	0000000019
			Gemplus GemTwin 64K v1 Normal DESFire 4K	0000000020
			Gemplus GemTwin 64K v2 Normal DESFire 4K	0000000021
			Gemplus GemTwin 64K v2 Fast DESFire 4K	0000000022
			G&D Sm@rtCafé Expert FIPS 64 v102 (1024-bit RSA)	0000000023
			G&D Sm@rtCafé Expert FIPS 64 DESFire 4K v102 (1024-bit RSA)	0000000024
4.1.	Requirements ID	Global	32K EEPROM Contact Java Card/GP	0000000001
			64K EEPROM Contactless Java Card /GP 4K ISO 14443 Type A	0000000002
			32K EEPROM Contactless Java Card/GP	0000000003
			64K EEPROM Contact Java Card /GP	0000000004
5.4.1	Package Config ID	Global	Full Stack (100)	0000000001
			Sample Stack (5)	0000000002
4.4	Physical Description ID	Global	32K Contact Smart Card	0000000001
			64K Contact Smart Card	0000000002
			64K Hybrid (Contact/Contactless) Smart Card	0000000003
			32K Hybrid (Contact/Contactless) Smart Card	0000000004
			Plain white smart card body	0000000005
			Specialized/longlife smart card body	0000000006
			Magnetic stripe	0000000007

Document Section	Specification	Global or Local ID	Requirement	Value	
			OVI	0000000008	
			Additional surface printing	0000000009	
			Background Color	0000000010	
4.5.	Logical Description ID	Local	Oberthur Galactic 32K V1	NA	0000000000
			Schlumberger Access 32K v2 SM7v2 Axalto Cyberflex Access 64k v1 SM2v1 Axalto Cyberflex Access 64k v1 SM4v1	DoD v1.0 Applet	0000000001
			Oberthur CosmopolIC 32K v4	DoD v1.0 Applet	0000000002
			Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM2v1 Axalto Cyberflex Access 64k v1 SM4v1 Axalto Cyberflex Access 64k v2	No applets	0000000003
			Gemplus GemTwin 64k v1/ Gemplus GemXpresso Pro 64k	DoD v1.0 Applet	0000000004
			Axalto Cyberflex Access 64k v1	DoD v1.0 Applet	0000000005
			Gemplus GemTwin 64k v1/ Gemplus GemXpresso Pro 64k	No Applets	0000000006
			Gemplus GemTwin 64k v1/ Gemplus GemXpresso Pro 64k	DoD v2 Applet	0000000007
			Axalto Cyberflex Access 64k v2	DoD v2 Applet	0000000008
			Schlumberger Cyberflex Access 32k v2 SM7v2	Contactless	0000000009
			Gemplus GemTwin 64k v1	Contactless	0000000010
			Axalto Cyberflex Access 64k v1 SM4v1	Contactless	0000000011
			Axalto Cyberflex Access 64k v2	Contactless	0000000012
			G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 DESFire 4K	DoD v2 Applet	0000000013

Document Section	Specification	Global or Local ID	Requirement			Value
			Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 DESFIRE 4K (Hybrid)/ Oberthur ID-One Cosmo 64 V5.2 DESFIRE 4K (Dual Interface)		DoD v2 Applet	0000000014
			G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 DESFire 4K Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 DESFIRE 4K (Hybrid)/ Oberthur ID-One Cosmo 64 V5.2 DESFIRE 4K (Dual Interface)		No applets	0000000015
			G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 DESFire 4K		No applets	0000000016
			Oberthur ID-One Cosmo 64 V5.2 DESFIRE		Contactless	0000000017
			G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 DESFire 4K		Contactless	0000000018
3.3.	Key Config ID	Local	Schlumberger Cyberflex Access 32k v2 SM7v2	Prod and Test	DoD (Aug 01)	0000000001
			Oberthur CosmopolIC v4 32k	Prod and Test	DoD (Aug 02)	0000000002
			Schlumberger Cyberflex Access 32k v2 SM7v2	Test	DoD (Sep 02)	0000000002
			Oberthur CosmopolIC v4 32k	Prod	DoD (Jan 03)	0000000003
			Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoD (Feb 03) DoD (May 03)	0000000004
			Oberthur CosmopolIC v4 32k	Test	DoD (Jan 03)	0000000005

Document Section	Specification	Global or Local ID	Requirement			Value
			Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM4v1	Test	DoD (Feb 03) DoD (May 03)	0000000006
			Oberthur CosmopolIC v4 32k	App Dev	DoD (Jan 03)	0000000007
			Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM4v1	App Dev	DoD (Feb 03) DoD (May 03)	0000000008
			Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	Prod	DoD (TBD)	0000000009
			Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoD (Aug 03)	0000000010
			Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	Test	DoD (TBD)	0000000011
			Axalto Cyberflex Access 64k v2	Test	DoD (Aug 03)	0000000012
			Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	App Dev	DoD (TBD)	0000000013
			Axalto Cyberflex Access 64k v2	App Dev	DoD (Aug 03)	0000000014
			Schlumberger Cyberflex Access 32k v2 SM7v2 Axalto Cyberflex Access 64k v1 SM4v1 Gemplus GemTwin 64k v2/ Gemplus GemXpresso PRO 64K	SDK	DoD (May 03)	0000000015
			Axalto Cyberflex Access 64k v2	Prod	DoD (Aug 03)	0000000016
			Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoI (July 03)	0000000018
			Axalto Cyberflex Access 64k v1 SM4v1	Test	DoVA (Fall 04)	0000000026
			Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoVA (Fall 04)	0000000027
			Gemplus GemTwin 64k v1	Test	DoVA (Fall 04)	0000000030
			Gemplus GemTwin 64k v1	App Dev	DoVA (Fall 04)	0000000031
			Gemplus GemTwin 64k v1	Prod	DoVA (Fall 04)	0000000032
			Gemplus GemTwin 64k v1	Test	DoI (Fall 04)	0000000033
			Gemplus GemTwin 64k v1	App Dev	DoI (Fall 04)	0000000034

Document Section	Specification	Global or Local ID	Requirement			Value
			Gemplus GemTwin 64k v1	Prod	DoI (Fall 04)	0000000035
			Gemplus GemTwin 64k v1	Test	NASA (Fall 04)	0000000036
			Gemplus GemTwin 64k v1	App Dev	NASA (Fall 04)	0000000037
			Gemplus GemTwin 64k v1	Prod	NASA (Fall 04)	0000000038
			Schlumberger Cyberflex Access 32k v2 SM7v2	Prod	TBD	0000000048
			Axalto Cyberflex Access 64k v1 SM4v1	Test	TBD	0000000049
			G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Test	TBD	0000000050
			G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Prod	TBD	0000000051
			Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K) (Hybrid and Dual Interface products)	Test	TBD	0000000052
			Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K)/ Oberthur ID-One Cosmo 64 v5.2 Dual	Prod	TBD	0000000053
			Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K)/ (Hybrid and Dual Interface products) G&D Sm@rtCafé Expert FIPS 64// G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	SDK	TBD	0000000058
			Contactless			
			Schlumberger Cyberflex Access 32k SM7v2 Axalto Cyberflex Access 64k v1 SM4v1 Gemplus GemTwin 64k v2	Contactless (no key)	DoD (Fall 03)	0000000017
			Axalto Cyberflex Access 64k v1 SM4v1	PROD	DoD (TBD)	0000000019
			Gemplus GemTwin 64k v2	PROD	DoD (TBD)	0000000020
			Axalto Cyberflex Access 64k v1 SM4v1	TEST	DoD (TBD)	0000000021

Document Section	Specification	Global or Local ID	Requirement			Value
			Gemplus GemTwin 64k v2	TEST	DoD (TBD)	0000000022
			Axalto Cyberflex Access 64k v1 SM4v1	APPDEV	DoD (TBD)	0000000023
			Gemplus GemTwin 64k v2	APPDEV	DoD (TBD)	0000000024
			Axalto Cyberflex Access 64k v1 SM4v1 Gemplus GemTwin 64k v2	SDK	DoD (TBD)	0000000025
			Axalto Cyberflex Access 64k v1 SM4v1	Test	DoVA (Fall 04)	0000000028
			Axalto Cyberflex Access 64k v1 SM4v1	Prod	DoVA (Fall 04)	0000000029
			Gemplus GemTwin 64k v1	Test	DoVA (Fall 04)	0000000039
			Gemplus GemTwin 64k v1	App Dev	DoVA (Fall 04)	0000000040
			Gemplus GemTwin 64k v1	Prod	DoVA (Fall 04)	0000000041
			Gemplus GemTwin 64k v1	Test	DoI (Fall 04)	0000000042
			Gemplus GemTwin 64k v1	App Dev	DoI (Fall 04)	0000000043
			Gemplus GemTwin 64k v1	Prod	DoI (Fall 04)	0000000044
			Gemplus GemTwin 64k v1	Test	NASA (Fall 04)	0000000045
			Gemplus GemTwin 64k v1	App Dev	NASA (Fall 04)	0000000046
			Gemplus GemTwin 64k v1	Prod	NASA (Fall 04)	0000000047
			G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Test	TBD	0000000054
			G&D Sm@rtCafé Expert FIPS 64/ G&D Sm@rtCafé Expert FIPS 64 (DESFire 4K)	Prod	TBD	0000000055
			Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K) (Hybrid and Dual Interface products)	Test	TBD	0000000056
			Oberthur ID-One Cosmo 64 v5.2/ Oberthur ID-One Cosmo 64 v5.2 (DESFIRE 4K) (Hybrid and Dual Interface products)	Prod	TBD	0000000057

B.1.2. Setup: Obtain Applet Packages

The card issuer sends applet packages in the form of files (eg .CAP files or equivalent) to the card manufacturer.

Applet package files can be transferred to the card manufacturer either:

- Manually in clear (on floppy disk). In this case, the package transfer procedure must insure that the integrity of the package is preserved during the transfer.
- Manually by email, encrypted and/or signed with keys exchanged between card issuer and card manufacturer.
- Programmatically with an interface proposed by the card issuer and agreed by the card manufacturer.

The applet packages file names and other attributes are described in Section 4.5. Applet Download data.

B.1.3. Setup: Exchange Key Material

Following the key management requirements in first part, the card manufacturer and card issuer must exchange Transport keys and the Master Key.

This exchange procedure is a prerequisite for batch management. The master key set label is agreed on during the exchange of the key. This master key set label is referenced in the XML descriptor.

B.1.4. Setup: Setup Card Initialization System

The card manufacturer must setup his smart card initialization system according to the smart card configuration requirements specified in this document.

The card manufacturer **MUST** comply with the key management directives detailed in Section 3 “Key Management”.

B.2 Inventory and Logistics System Specifications

An inventory and logistics system is responsible for creating the government cardstock order and for tracking the order and fulfillment of the inventory.

B.2.1 Batch Order Descriptor

A Batch Order is a request for provisioning a batch of smartcards to a local Card manufacturer's vault. The use of Batch Order Descriptors creates an audit trail for government entities and the card manufacturer. Only one vault per card manufacturer must be used.

The card issuer sends a Batch Order to the card manufacturer in the form of a XML file called a **Batch Order Descriptor (BOD)**. The BOD contains:

- Batch UID (generated by the card issuer)
- Name and e-mail address of individual generating BOD - Optional
- Expected commit date – Optional
- Shipping Method - Optional
- Expected delivery date (Delivery descriptor must be sent by them) – Optional
- Number of cards required in the batch.
- All configurations referenced

Note:

The batch order size per BOD is limited to 100,000 cards. If a government entity is planning to order more than 100,000 cards, the order will be split into multiple batch orders of varying amounts with each individual BOD to not exceed 100,000 cards. Refer to “Appendix C: XML Descriptors Specification” for a more detailed description.

B.2.1.1. Batch UID:

The Batch UID is part of the batch order and is determined by the Card Issuer. Each stack label must show the batch UID and it must also be referenced in the BDD, SOD, and SDD.

B.2.1.2. Verification by the Card manufacturer of the validity of a Batch.

Upon reception of a BOD, the following information should be checked:

- The Batch UIDs should be unique across all BODs received by the card manufacturer from the card issuer per the customer ID or author
- The Batch UIDs are not necessarily consecutive but their value should always increment.
- The Number of cards received in the BOD MUST either be a multiple of 100 or 5.

B.2.2 Card Stock Provisioning

B.2.2.1. Smart Card Initialization

The implementation of the initialization of pre-issued smart cards – or batch processing is the responsibility of the card manufacturer. See previous section: Batch Configuration.

The batch delivery descriptor (see next section) is created during the smart card initialization process.

B.2.2.2. Smart Card Packaging

The Smart Card packaging must follow the Packaging configuration referenced in the Batch Order.

B.2.2.3. Smart Card Stock Provisioning

Stacks are shipped to a card manufacturer's local Vault as referenced in the Batch Order. The Local Vault address information is to be included in the Batch Delivery descriptor

B.2.3 Batch Delivery Descriptors

The card manufacturer MUST generate for each order of Smart Cards an XML file called a batch delivery descriptor (BDD). The batch delivery descriptor contains the necessary information to record each card in the batch within the Card Issuer's logistic system.:

- Batch UID, as defined in the batch order
- ID, address, and contact person at the central card manufacturer site from where the batch is produced
- Number of cards in the batch
- List of configurations corresponding to the batch (which should be a mirror of the batch order configurations.)
- List of card information for each card
 - StackID
 - CUID
 - Batch Serial Number
 - CPLC Data
 - Contactless Identifier (UID), if relevant

Refer to "Appendix C: XML Descriptors Specification" for a more detailed description.

B.2.3.1. Validation of the Batch Delivery Descriptor by the Card Issuer

If one of the following is true, the Batch Delivery descriptor will be rejected by the card issuer.

- The BDD is not syntactically correct (conforms to the schema provided in the xmns attribute of the BatchOrder)
- The BOD in the BDD must have to have the same batch number as the one sent by the Card issuer
- The entire batch configuration does not match the configurations given in the batch order.
- The Number of cards in the BDD is not a multiple of 100 or 5.

Note that the Batch delivery size is limited to 100,000 cards. If a government entity is planning to order more than a 100,000 cards, the order will be split in multiple orders not to exceed 100,000 cards per order. It is mandatory that one BDD will be produced for each of the batch orders sent.

B.2.4 Shipping Orders Descriptors

A Shipping Order Descriptor (SOD) is a request sent from the Government Inventory POC to the card manufacturer for shipping a given quantity of smart cards from a manufacturer's local Vault to a specific warehouse or RAPIDS site. The card issuer sends an SOD to the card manufacturer in the form of an XML file called the **Shipping Order Descriptor (SOD)**. The SOD contains:

- Batch order ID (generated by the card issuer)
- Unique Shipping Order ID (generated by the card issuer)
- Expected delivery date – Required
- Shipping Method - Required
- Expected commit date - optional
- ID, address, and contact person at the card issuer issuance site to where the batch must be delivered
- Number of cards required in the batch
- All configuration's referenced

B.2.4.1. Verification by the Card manufacturer of the validity of a SOD

Upon reception of a SOD, the following information should be checked:

- The Shipping order ID should be unique across all SOD received by the card manufacturer from the Card Issuer (per the customer ID or author)..
- The Number of cards received in the SOD MUST be a multiple of 100 or 5.
- The SOD should be syntactically correct (conforms to the schema provided in the xmns attribute of the SOD).
- The Batch Configuration should match the corresponding Batch configuration defined in the BOD referenced by the corresponding BatchUID.

Refer to “Appendix C: XML Descriptors Specification” for a more detailed description.

B.2.5 Smart Card Delivery

Stacks are shipped from the card manufacturer's local vault to the issuance site as indicated in the Shipping Order.

B.2.6 Shipping Delivery Descriptor

The card manufacturer must generate for each delivery of smart cards from a local vault to an issuance site, an XML message called Shipping Delivery Descriptor.

The Shipping Delivery descriptor contains the necessary information to record each card in the batch in the card issuer inventory system:

- Batch ID,
- Shipping ID
- Site ID, address, and contact person at the card issuance site to where the smart cards must be delivered
- ID, address, and contact person at the Local Vault site from where the smart cards are requested
- Number of cards in the batch
- List of configurations corresponding to the batch, which should be similar as the Batch Order configurations
- Card reference information for each stack
 - CUID of the first card in the stack (“name” attribute in XML)
 - StackID

Validation of the SSD by the card issuer: If one of the following is true, the Shipping Delivery Descriptor will be rejected by the card issuer:

- The SDD is not syntactically correct (conforms to the schema provided in the xlmns attribute of the Batch Order)
- SOD with the same Shipping Identifier as the one in the SDD has been sent by the Card issuer
- The number of the BOD and SOD does not mirror a number submitted by the card issuer to the card manufacturer.
- The Deliveryplace ID is different from the one from the corresponding SOD.
- The entire batch configuration does not match the configurations given in the shipping order.
- The Card number is not a multiple of 100 or 5.

Refer to “Appendix C: XML Descriptors Specification” for a more detailed description.

APPENDIX C - XML DESCRIPTORS

The batch descriptors are implemented using XML format. The specification is provided in the following XML schema, common for Batch Order, Batch Delivery, Shipping Order and Shipping Delivery descriptors

C.1 XML Schema

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema targetNamespace="http://www.activcard.com/xml/ns/acms/batch/2.0"
xmlns="http://www.activcard.com/xml/ns/acms/batch/2.0"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
elementFormDefault="qualified" version="0.1">
  <xsd:import namespace="http://www.w3.org/2001/04/xmlenc#"
schemaLocation="http://www.w3.org/TR/xmlenc-core/xenc-schema.xsd"/>
  <xsd:simpleType name="StandardIDType">
    <xsd:annotation>
      <xsd:documentation>This ID is used for all ID inside the batch. Its only constraint is its size
(25)</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="25"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="VersionType">
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="10"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:complexType name="HeaderType">
    <xsd:sequence>
      <xsd:element name="DocID" type="StandardIDType"/>
      <xsd:element name="Date" type="xsd:dateTime"/>
      <xsd:element name="Author" type="xsd:string"/>
      <xsd:element name="Comment" type="xsd:string"/>
      <xsd:element name="TaskOrder" type="xsd:string"/>
      <xsd:element name="PurchaseOrder" type="xsd:string"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="ContactPersonInfoType">
    <xsd:sequence>
      <xsd:element name="PersonName" type="xsd:string"/>
      <xsd:element name="Tel1" type="xsd:string"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:schema>
```

```

        <xsd:element name="Tel2" type="xsd:string"/>
        <xsd:element name="Fax" type="xsd:string"/>
        <xsd:element name="Email" type="xsd:string"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="DeliveryPlaceInfoType">
    <xsd:sequence>
        <xsd:element name="DeliveryPlaceID" type="StandardIDType"/>
        <xsd:element name="OrganizationName" type="xsd:string"/>
        <xsd:element name="Address" type="xsd:string"/>
        <xsd:element name="Address2" type="xsd:string"/>
        <xsd:element name="Address3" type="xsd:string"/>
        <xsd:element name="City" type="xsd:string"/>
        <xsd:element name="ZipCode" type="xsd:string"/>
        <xsd:element name="State" type="xsd:string"/>
        <xsd:element name="Country" type="xsd:string"/>
        <xsd:element name="MainContactPerson" type="ContactPersonInfoType"/>
        <xsd:element name="AltContactPerson" type="ContactPersonInfoType" minOccurs="0"/>
        <xsd:element name="ShippingInstructions" type="xsd:string" minOccurs="0"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CardManufacturerInfoType">
    <xsd:sequence>
        <xsd:element name="CardManufacturerID" type="StandardIDType"/>
        <xsd:element name="OrganizationName" type="xsd:string"/>
        <xsd:element name="Address" type="xsd:string"/>
        <xsd:element name="Address2" type="xsd:string"/>
        <xsd:element name="Address3" type="xsd:string"/>
        <xsd:element name="City" type="xsd:string"/>
        <xsd:element name="ZipCode" type="xsd:string"/>
        <xsd:element name="State" type="xsd:string"/>
        <xsd:element name="Country" type="xsd:string"/>
        <xsd:element name="MainContactPerson" type="ContactPersonInfoType"/>
        <xsd:element name="AltContactPerson" type="ContactPersonInfoType" minOccurs="0"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CustomerInfoType">
    <xsd:sequence>
        <xsd:element name="CustomerID" type="xsd:string"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="PhysicalProductConfigurationType">
    <xsd:sequence>

```

```

        <xsd:element name="PhysicalDescriptionID" type="StandardIDType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ProductConfigurationType">
    <xsd:sequence>
        <xsd:element name="CardProductID" type="StandardIDType"/>
        <xsd:element name="PhysicalProductConfiguration" type="PhysicalProductConfigurationType"/>
        <xsd:element name="CardChipConfiguration">
            <xsd:complexType>
                <xsd:choice>
                    <xsd:element name="ContactCardConfiguration" type="ContactICCConfigurationType"/>
                    <xsd:element name="ContactlessCardConfiguration"
type="ContactlessICCConfigurationType"/>
                    <xsd:element name="HybridCardConfiguration" type="HybridCardConfigurationType"/>
                    <xsd:element name="CombiCardConfiguration" type="CombiCardConfigurationType"/>
                </xsd:choice>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchConfigurationType">
    <xsd:sequence>
        <xsd:element name="ProductConfiguration" type="ProductConfigurationType"/>
        <xsd:element name="PackageConfigID" type="StandardIDType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchOrderDataType">
    <xsd:sequence>
        <xsd:element name="BatchUID" type="StandardIDType"/>
        <xsd:element name="BatchType" type="xsd:string"/>
        <xsd:element name="BatchClientOrderNumber" type="xsd:string"/>
        <xsd:element name="ShippingOrganization" type="xsd:string" minOccurs="0"/>
        <xsd:element name="ExpectedCommitDate" type="xsd:date" minOccurs="0"/>
        <xsd:element name="ExpectedDeliveryDate" type="xsd:date" minOccurs="0"/>
        <xsd:element name="ShippingMethod" type="xsd:string" minOccurs="0"/>
        <xsd:element name="CardNb" type="xsd:short"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ShippingOrderDataType">
    <xsd:sequence>
        <xsd:element name="ShippingID" type="StandardIDType"/>
        <xsd:element name="BatchUID" type="StandardIDType"/>
        <xsd:element name="ShippingType" type="xsd:string"/>
    </xsd:sequence>

```

```

    <xsd:element name="ShippingClientOrderNumber" type="xsd:string"/>
    <xsd:element name="ShippingOrganization" type="xsd:string" minOccurs="0"/>
    <xsd:element name="ExpectedCommitDate" type="xsd:date" minOccurs="0"/>
    <xsd:element name="ExpectedDeliveryDate" type="xsd:date"/>
    <xsd:element name="ShippingMethod" type="xsd:string"/>
    <xsd:element name="CardNb" type="xsd:short"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchCommitDataType">
  <xsd:sequence>
    <xsd:element name="BatchUID" type="StandardIDType"/>
    <xsd:element name="DeliveryList" type="DeliveryListType"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CardDataType">
  <xsd:choice>
    <xsd:element name="ContactData" type="ContactDataType"/>
    <xsd:element name="ContactlessData" type="ContactlessDataType"/>
    <xsd:element name="HybridData" type="HybridDataType"/>
    <xsd:element name="CombiData" type="CombiDataType"/>
  </xsd:choice>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="CardDataRefType">
  <xsd:sequence>
    <xsd:element name="StackID" type="StandardIDType"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="DeliveryType">
  <xsd:sequence>
    <xsd:element name="DeliveryID" type="StandardIDType"/>
    <xsd:element name="ExpectedDeliveryDate" type="xsd:date"/>
    <xsd:element name="CardNb" type="xsd:short"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="DeliveryListType">
  <xsd:sequence>
    <xsd:element name="Delivery" type="DeliveryType" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchDeliveryDataType">

```

```

<xsd:sequence>
  <xsd:element name="BatchUID" type="StandardIDType"/>
  <xsd:element name="CardNb" type="xsd:short"/>
  <xsd:element name="ShippingOrganization" type="xsd:string" minOccurs="0"/>
  <xsd:element name="TrackingNumber" type="xsd:string" minOccurs="0"/>
  <xsd:element name="CardDataList">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="CardData" type="CardDataType" maxOccurs="unbounded"/>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="SiteShippingDeliveryDataType">
  <xsd:sequence>
    <xsd:element name="ShippingID" type="StandardIDType"/>
    <xsd:element name="BatchUID" type="StandardIDType"/>
    <xsd:element name="CardNb" type="xsd:short"/>
    <xsd:element name="ShippingOrganization" type="xsd:string" minOccurs="0"/>
    <xsd:element name="MasterTrackingNumber" type="xsd:string" minOccurs="0"/>
    <xsd:element name="CardDataRefList">
      <xsd:complexType>
        <xsd:sequence>
          <xsd:element name="CardDataRef" type="CardDataRefType" maxOccurs="unbounded"/>
        </xsd:sequence>
      </xsd:complexType>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
<xsd:element name="BatchOrder">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="SchemaVersion" type="VersionType"/>
      <xsd:element name="Header" type="HeaderType"/>
      <xsd:element name="CustomerInfo" type="CustomerInfoType"/>
      <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
      <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
      <xsd:element name="BatchOrderData" type="BatchOrderDataType"/>
      <xsd:element ref="ds:Signature" minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

```



```

<xsd:element name="SiteShippingOrder">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="SchemaVersion" type="VersionType"/>
      <xsd:element name="Header" type="HeaderType"/>
      <xsd:element name="CustomerInfo" type="CustomerInfoType"/>
      <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
      <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
      <xsd:element name="ShippingOrderData" type="ShippingOrderDataType"/>
      <xsd:element ref="ds:Signature" minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="BatchDelivery">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="SchemaVersion" type="VersionType"/>
      <xsd:element name="Header" type="HeaderType"/>
      <xsd:element name="CustomerInfo" type="CustomerInfoType"/>
      <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
      <xsd:element name="CardManufacturerInfo" type="CardManufacturerInfoType"/>
      <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
      <xsd:element name="BatchDeliveryData" type="BatchDeliveryDataType"/>
      <xsd:element ref="ds:Signature" minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="SiteShippingDelivery">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="SchemaVersion" type="VersionType"/>
      <xsd:element name="Header" type="HeaderType"/>
      <xsd:element name="CustomerInfo" type="CustomerInfoType"/>
      <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
      <xsd:element name="CardManufacturerInfo" type="CardManufacturerInfoType"/>
      <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
      <xsd:element name="SiteShippingDeliveryData" type="SiteShippingDeliveryDataType"/>
      <xsd:element ref="ds:Signature" minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:complexType name="ContactICCCConfigurationType">
  <xsd:sequence>

```

```

        <xsd:element name="RequirementsID" type="StandardIDType"/>
        <xsd:element name="KeyConfigID" type="StandardIDType"/>
        <xsd:element name="LogicalDescriptionID" type="StandardIDType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ContactlessICCConfigurationType">
    <xsd:sequence>
        <xsd:element name="RequirementsID" type="StandardIDType"/>
        <xsd:element name="KeyConfigID" type="StandardIDType"/>
        <xsd:element name="LogicalDescriptionID" type="StandardIDType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="HybridCardConfigurationType">
    <xsd:sequence>
        <xsd:element name="ContactChipConfiguration" type="ContactICCConfigurationType"/>
        <xsd:element name="ContactlessChipConfiguration" type="ContactlessICCConfigurationType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CombiCardConfigurationType">
    <xsd:sequence>
        <xsd:element name="ContactChipConfiguration" type="ContactICCConfigurationType"/>
        <xsd:element name="ContactlessChipConfiguration" type="ContactlessICCConfigurationType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ContactDataType">
    <xsd:sequence>
        <xsd:element name="StackID" type="StandardIDType"/>
        <xsd:element name="BatchSN" type="StandardIDType"/>
        <xsd:element name="ContactSpecificData" type="ContactSpecificDataType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ContactlessDataType">
    <xsd:sequence>
        <xsd:element name="StackID" type="StandardIDType"/>
        <xsd:element name="BatchSN" type="StandardIDType"/>
        <xsd:element name="ContactlessSpecificData" type="ContactlessSpecificDataType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="HybridDataType">
    <xsd:sequence>
        <xsd:element name="StackID" type="StandardIDType"/>
        <xsd:element name="BatchSN" type="StandardIDType"/>
        <xsd:element name="ContactSpecificData" type="ContactSpecificDataType"/>
    </xsd:sequence>

```

```

        <xsd:element name="ContactlessSpecificData" type="ContactlessSpecificDataType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CombiDataType">
    <xsd:sequence>
        <xsd:element name="StackID" type="StandardIDType"/>
        <xsd:element name="BatchSN" type="StandardIDType"/>
        <xsd:element name="ContactSpecificData" type="ContactSpecificDataType"/>
        <xsd:element name="ContactlessSpecificData" type="ContactlessSpecificDataType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ContactlessSpecificDataType">
    <xsd:sequence>
        <xsd:element name="UID" type="StandardIDType"/>
        <xsd:element name="CPLCData" type="xsd:string"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ContactSpecificDataType">
    <xsd:sequence>
        <xsd:element name="CUID" type="StandardIDType"/>
        <xsd:element name="CPLCData" type="xsd:string"/>
    </xsd:sequence>
</xsd:complexType>
</xsd:schema>

```

C.2 Example Batch Order Descriptors

C.2.1. Batch Order Descriptor - Contact

```
<?xml version="1.0" encoding="UTF-8"?>
<BatchOrder xmlns="http://www.activcard.com/xml/ns/acms/batch/2.0"
  xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/2.0 C:\batch_2.0_Option2-
  ActivCard-Update-2-2-2004.xsd">
  <SchemaVersion>0000000002</SchemaVersion>
  <Header>
    <DocID>BO-CAC-SLB-78727</DocID>
    <Date>2001-12-17T09:30:47-05:00</Date>
    <Author>DMDC</Author>
    <Comment>Batch order</Comment>
    <TaskOrder />
    <PurchaseOrder />
  </Header>
  <CustomerInfo>
    <CustomerID>DMDC-01</CustomerID>
  </CustomerInfo>
  <DeliveryPlaceInfo>
    <DeliveryPlaceID />
    <OrganizationName />
    <Address />
    <Address2 />
    <Address3 />
    <City />
    <ZipCode />
    <State />
    <Country />
    <MainContactPerson>
      <PersonName>John Doe </PersonName>
      <Tel1 />
      <Tel2 />
      <Fax />
      <Email>jdoe@dod.com</Email>
    </MainContactPerson>
    <AltContactPerson>
      <PersonName />
      <Tel1 />
```

```

    <Tel2 />
    <Fax />
    <Email />
  </AltContactPerson>
  <ShippingInstructions />
</DeliveryPlaceInfo>
<BatchConfiguration>
  <ProductConfiguration>
    <CardProductID>0000000001</CardProductID>
    <PhysicalProductConfiguration>
      <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
    </PhysicalProductConfiguration>
    <CardChipConfiguration>
      <ContactCardConfiguration>
        <RequirementsID>0000000001</RequirementsID>
        <KeyConfigID>0000000001</KeyConfigID>
        <LogicalDescriptionID>0000000001</LogicalDescriptionID>
      </ContactCardConfiguration>
    </CardChipConfiguration>
  </ProductConfiguration>
  <PackageConfigID>0000000001</PackageConfigID>
</BatchConfiguration>
<BatchOrderData>
  <BatchUID>78727</BatchUID>
  <BatchType>0000000001</BatchType>
  <BatchClientOrderNumber></BatchClientOrderNumber>
  <ShippingOrganization>FedEx</ShippingOrganization>
  <ExpectedDeliveryDate>2004-03-12</ExpectedDeliveryDate>
  <ShippingMethod />
  <CardNb>100</CardNb>
</BatchOrderData>
</BatchOrder>

```

C.2.2. Batch Order Descriptor - Hybrid

```

<?xml version="1.0" encoding="UTF-8"?>
<BatchOrder xmlns="http://www.activcard.com/xml/ns/acms/batch/2.0"
  xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/2.0
  C:\batch_2.0_Option2-ActivCard-Update-2-2-2004.xsd">
  <SchemaVersion>0000000002</SchemaVersion>
  <Header>

```

```
<DocID>BO-CAC-OCS-78727</DocID>
<Date>2001-12-17T09:30:47-05:00</Date>
<Author>DMDC</Author>
<Comment>Batch order</Comment>
<TaskOrder />
<PurchaseOrder />
</Header>
<CustomerInfo>
  <CustomerID>DMDC-01</CustomerID>
</CustomerInfo>
<DeliveryPlaceInfo>
  <DeliveryPlaceID />
  <OrganizationName />
  <Address />
  <Address2 />
  <Address3 />
  <City />
  <ZipCode />
  <State />
  <Country />
  <MainContactPerson>
    <PersonName>John Doe </PersonName>
    <Tel1 />
    <Tel2 />
    <Fax />
    <Email>jdoe@dod.com</Email>
  </MainContactPerson>
  <AltContactPerson>
    <PersonName />
    <Tel1 />
    <Tel2 />
    <Fax />
    <Email />
  </AltContactPerson>
  <ShippingInstructions />
</DeliveryPlaceInfo>
<BatchConfiguration>
  <ProductConfiguration>
    <CardProductID>0000000001</CardProductID>
    <PhysicalProductConfiguration>
      <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
    </PhysicalProductConfiguration>
    <CardChipConfiguration>
```

```

    <HybridCardConfiguration>
      <ContactChipConfiguration>
        <RequirementsID>0000000001</RequirementsID>
        <KeyConfigID>0000000001</KeyConfigID>
        <LogicalDescriptionID>0000000001</LogicalDescriptionID>
      </ContactChipConfiguration>
      <ContactlessChipConfiguration>
        <RequirementsID>0000000002</RequirementsID>
        <KeyConfigID>0000000002</KeyConfigID>
        <LogicalDescriptionID>0000000002</LogicalDescriptionID>
      </ContactlessChipConfiguration>
    </HybridCardConfiguration>
  </CardChipConfiguration>
</ProductConfiguration>
<PackageConfigID>0000000001</PackageConfigID>
</BatchConfiguration>
<BatchOrderData>
  <BatchUID>78727</BatchUID>
  <BatchType>0000000001</BatchType>
  <BatchClientOrderNumber></BatchClientOrderNumber>
  <ShippingOrganization>FedEx</ShippingOrganization>
  <ExpectedDeliveryDate>2004-3-12</ExpectedDeliveryDate>
  <ShippingMethod>2 days</ShippingMethod>
  <CardNb>1</CardNb>
</BatchOrderData>
</BatchOrder>

```

C.3 Example Batch Delivery Descriptors

C.3.1. Batch Delivery Descriptor - Contact

```

<?xml version="1.0" encoding="UTF-8"?>
<BatchDelivery xmlns="http://www.activcard.com/xml/ns/acms/batch/2.0"
  xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/2.0
  C:\batch_2.0_Option2-ActivCard-Update-2-2-2004.xsd">
  <SchemaVersion>0000000002</SchemaVersion>
  <Header>
    <DocID>BD-CAC-SLB-78727</DocID>
    <Date>2001-12-17T09:30:47-05:00</Date>
    <Author>DMDC</Author>
    <Comment>Batch delivery</Comment>

```

```
<TaskOrder>GS-1-2-123</TaskOrder>
<PurchaseOrder>256</PurchaseOrder>
</Header>
<CustomerInfo>
  <CustomerID>DMDC-01</CustomerID>
</CustomerInfo>
<DeliveryPlaceInfo>
  <DeliveryPlaceID />
  <OrganizationName />
  <Address />
  <Address2 />
  <Address3 />
  <City />
  <ZipCode />
  <State />
  <Country />
  <MainContactPerson>
    <PersonName>John Doe </PersonName>
    <Tel1 />
    <Tel2 />
    <Fax />
    <Email>jdoe@dod.com</Email>
  </MainContactPerson>
  <AltContactPerson>
    <PersonName />
    <Tel1 />
    <Tel2 />
    <Fax />
    <Email />
  </AltContactPerson>
  <ShippingInstructions />
</DeliveryPlaceInfo>
<CardManufacturerInfo>
  <CardManufacturerID>Schlumberger-01</CardManufacturerID>
  <OrganizationName>Schlumberger</OrganizationName>
  <Address>45 Main street</Address>
  <Address2></Address2>
  <Address3></Address3>
  <City>Boston</City>
  <ZipCode>65346</ZipCode>
  <State>NE</State>
  <Country>USA</Country>
  <MainContactPerson>
```



```

    <PersonName>Joe Doe</PersonName>
    <Tel1>1-608-578-5001</Tel1>
    <Tel2></Tel2>
    <Fax>1-608-578-0001</Fax>
    <Email>joeDoe@slb.com</Email>
  </MainContactPerson>
</CardManufacturerInfo>
<BatchConfiguration>
<ProductConfiguration>
  <CardProductID>0000000001</CardProductID>
  <PhysicalProductConfiguration>
    <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
  </PhysicalProductConfiguration>
  <CardChipConfiguration>
    <ContactCardConfiguration>
      <RequirementsID>0000000001</RequirementsID>
      <KeyConfigID>0000000001</KeyConfigID>
      <LogicalDescriptionID>0000000001</LogicalDescriptionID>
    </ContactCardConfiguration>
  </CardChipConfiguration>
</ProductConfiguration>
<PackageConfigID>0000000001</PackageConfigID>
</BatchConfiguration>
<BatchDeliveryData>
<BatchUID>78727</BatchUID>
<CardNb>1</CardNb>
<ShippingOrganization />
<TrackingNumber />
<CardDataList>
  <CardData name="20505032101300000001">
    <ContactData>
      <StackID>787270001</StackID>
      <BatchSN>1</BatchSN>
      <ContactSpecificData>
        <CUID>20505032101300000001</CUID>
      </ContactSpecificData>
    </ContactData>
  </CardData>
</CardDataList>
</BatchDeliveryData>
</BatchDelivery>

```

C.3.2. Batch Delivery Descriptor - Hybrid

```
<?xml version="1.0" encoding="UTF-8"?>
<BatchDelivery xmlns="http://www.activcard.com/xml/ns/acms/batch/2.0"
  xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/2.0 C:\batch_2.0_Option2-
  ActivCard-Update-2-2-2004.xsd">
  <SchemaVersion>0000000002</SchemaVersion>
  <Header>
    <DocID>BD-CAC-OCS-78727</DocID>
    <Date>2001-12-17T09:30:47-05:00</Date>
    <Author>DMDC</Author>
    <Comment>Batch delivery</Comment>
    <TaskOrder>GS-1-2-123</TaskOrder>
    <PurchaseOrder>256</PurchaseOrder>
  </Header>
  <CustomerInfo>
    <CustomerID>DMDC-01</CustomerID>
  </CustomerInfo>
  <DeliveryPlaceInfo>
    <DeliveryPlaceID />
    <OrganizationName />
    <Address />
    <Address2 />
    <Address3 />
    <City />
    <ZipCode />
    <State />
    <Country />
    <MainContactPerson>
      <PersonName>John Doe </PersonName>
      <Tel1 />
      <Tel2 />
      <Fax />
      <Email>jdoe@dod.com</Email>
    </MainContactPerson>
    <AltContactPerson>
      <PersonName />
      <Tel1 />
      <Tel2 />
      <Fax />
      <Email />
  </DeliveryPlaceInfo>
</BatchDelivery>
```

```

</AltContactPerson>
<ShippingInstructions />
</DeliveryPlaceInfo>
<CardManufacturerInfo>
  <CardManufacturerID>Oberthur-01</CardManufacturerID>
  <OrganizationName>Oberthur</OrganizationName>
  <Address>45 Main Street</Address>
  <Address2></Address2>
  <Address3></Address3>
  <City>Los Angeles</City>
  <ZipCode>65346</ZipCode>
  <State>CA</State>
  <Country>USA</Country>
  <MainContactPerson>
    <PersonName>Joe Doe</PersonName>
    <Tel1>1-608-578-5001</Tel1>
    <Tel2></Tel2>
    <Fax>1-608-578-0001</Fax>
    <Email>joeDoe@ocs.com</Email>
  </MainContactPerson>
</CardManufacturerInfo>
<BatchConfiguration>
  <ProductConfiguration>
    <CardProductID>0000000001</CardProductID>
    <PhysicalProductConfiguration>
      <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
    </PhysicalProductConfiguration>
    <CardChipConfiguration>
      <HybridCardConfiguration>
        <ContactChipConfiguration>
          <RequirementsID>0000000001</RequirementsID>
          <KeyConfigID>0000000001</KeyConfigID>
          <LogicalDescriptionID>0000000001</LogicalDescriptionID>
        </ContactChipConfiguration>
        <ContactlessChipConfiguration>
          <RequirementsID>0000000002</RequirementsID>
          <KeyConfigID>0000000002</KeyConfigID>
          <LogicalDescriptionID>0000000002</LogicalDescriptionID>
        </ContactlessChipConfiguration>
      </HybridCardConfiguration>
    </CardChipConfiguration>
  </ProductConfiguration>
  <PackageConfigID>0000000001</PackageConfigID>

```

```
</BatchConfiguration>
<BatchDeliveryData>
  <BatchUID>78727</BatchUID>
  <CardNb>1</CardNb>
  <ShippingOrganization />
  <TrackingNumber />
  <CardDataList>
    <CardData name="20505032101300000001">
      <HybridData>
        <StackID>OCS787270001</StackID>
        <BatchSN>1</BatchSN>
        <ContactSpecificData>
          <CUID>20505033101300000001</CUID>
        </ContactSpecificData>
      </HybridData>
    </CardData>
  </CardDataList>
  <CPLCData>2050503314420004010103540000766810131432035414530000</CPLCData>
  </ContactSpecificData>
  <ContactlessSpecificData>
    <UID>23444444433434</UID>
  </ContactlessSpecificData>
  <CPLCData>2050503214420004010103540000766810131432035414530000</CPLCData>
  </ContactlessSpecificData>
  </HybridData>
</CardData>
</CardDataList>
</BatchDeliveryData>
</BatchDelivery>
```

C.4 Example Shipping Order Descriptors

C.4.1. Shipping Order Descriptor - Contact

```
<?xml version="1.0" encoding="UTF-8"?>
<SiteShippingOrder xmlns="http://www.activcard.com/xml/ns/acms/batch/2.0"
  xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/2.0 C:\batch_2.0_Option2-
  ActivCard-Update-2-2-2004.xsd">
  <SchemaVersion>0000000002</SchemaVersion>
  <Header>
    <DocID>SO-CAC-GEM-78727</DocID>
    <Date>2001-12-17T09:30:47-05:00</Date>
    <Author>DMDC</Author>
    <Comment>Site shipping order</Comment>
    <TaskOrder />
    <PurchaseOrder />
  </Header>
  <CustomerInfo>
    <CustomerID>DMDC-01</CustomerID>
  </CustomerInfo>
  <DeliveryPlaceInfo>
    <DeliveryPlaceID>101417</DeliveryPlaceID>
    <OrganizationName>MCB Quantico</OrganizationName>
    <Address>123 Main Street</Address>
    <Address2>Marine Corps Personnel Division </Address2>
    <Address3 />
    <City>Quantico</City>
    <ZipCode>22134</ZipCode>
    <State>VA </State>
    <Country>US</Country>
  <MainContactPerson>
    <PersonName>SSGT John Doe</PersonName>
    <Tel1>703-000-0000</Tel1>
    <Tel2></Tel2>
    <Fax></Fax>
    <Email>jdoe@usmc.mil</Email>
  </MainContactPerson>
  <AltContactPerson>
    <PersonName>TURNER EVELYN</PersonName>
    <Tel1>703-000-0001</Tel1>
    <Tel2></Tel2>
```

```

    <Fax></Fax>
    <Email>eturner@usmc.mil</Email>
  </AltContactPerson>
  <ShippingInstructions>Regular processing</ShippingInstructions>
</DeliveryPlaceInfo>
<BatchConfiguration>
  <ProductConfiguration>
    <CardProductID>0000000001</CardProductID>
    <PhysicalProductConfiguration>
      <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
    </PhysicalProductConfiguration>
    <CardChipConfiguration>
      <ContactCardConfiguration>
        <RequirementsID>0000000001</RequirementsID>
        <KeyConfigID>0000000001</KeyConfigID>
        <LogicalDescriptionID>0000000001</LogicalDescriptionID>
      </ContactCardConfiguration>
    </CardChipConfiguration>
  </ProductConfiguration>
  <PackageConfigID>0000000001</PackageConfigID>
</BatchConfiguration>
<ShippingOrderData>
  <ShippingID>3</ShippingID>
  <BatchUID>78727</BatchUID>
  <ShippingType>0000000003</ShippingType>
  <ShippingClientOrderNumber></ShippingClientOrderNumber>
  <ShippingOrganization>FedEx</ShippingOrganization>
  <ExpectedDeliveryDate>2004-3-12</ExpectedDeliveryDate>
  <ShippingMethod>2 days</ShippingMethod>
  <CardNb>100</CardNb>
</ShippingOrderData>
</SiteShippingOrder>

```

C.4.2. Shipping Order Descriptor - Hybrid

```

<?xml version="1.0" encoding="UTF-8"?>
<SiteShippingOrder xmlns="http://www.activcard.com/xml/ns/acms/batch/2.0"
  xmlns:ds="http://www.w3.org/2000/09/xmldsig#" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
  instance" xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/2.0 C:\batch_2.0_Option2-
  ActivCard-Update-2-2-2004.xsd">
  <SchemaVersion>0000000002</SchemaVersion>
  <Header>
    <DocID>SO-CAC-AXL-78727</DocID>

```

```
<Date>2001-12-17T09:30:47-05:00</Date>
<Author>DMDC</Author>
<Comment>Site shipping order</Comment>
<TaskOrder />
<PurchaseOrder />
</Header>
<CustomerInfo>
  <CustomerID>DMDC-01</CustomerID>
</CustomerInfo>
<DeliveryPlaceInfo>
  <DeliveryPlaceID>101417</DeliveryPlaceID>
  <OrganizationName>MCB Quantico</OrganizationName>
  <Address>123 Main Street</Address>
  <Address2>Marine Corps Personnel Division </Address2>
  <Address3 />
  <City>Quantico</City>
  <ZipCode>22134</ZipCode>
  <State>VA </State>
  <Country>US</Country>
  <MainContactPerson>
    <PersonName>SSGT John Doe</PersonName>
    <Tel1>703-000-0000</Tel1>
    <Tel2></Tel2>
    <Fax></Fax>
    <Email>jdoe@usmc.mil</Email>
  </MainContactPerson>
  <AltContactPerson>
    <PersonName>TURNER EVELYN</PersonName>
    <Tel1>703-000-0001</Tel1>
    <Tel2></Tel2>
    <Fax></Fax>
    <Email>eturner@usmc.mil</Email>
  </AltContactPerson>
  <ShippingInstructions>Regular processing</ShippingInstructions>
</DeliveryPlaceInfo>
<BatchConfiguration>
  <ProductConfiguration>
    <CardProductID>0000000001</CardProductID>
    <PhysicalProductConfiguration>
      <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
    </PhysicalProductConfiguration>
    <CardChipConfiguration>
      <HybridCardConfiguration>
```

```

    <ContactChipConfiguration>
      <RequirementsID>0000000001</RequirementsID>
      <KeyConfigID>0000000001</KeyConfigID>
      <LogicalDescriptionID>0000000001</LogicalDescriptionID>
    </ContactChipConfiguration>
    <ContactlessChipConfiguration>
      <RequirementsID>0000000002</RequirementsID>
      <KeyConfigID>0000000002</KeyConfigID>
      <LogicalDescriptionID>0000000002</LogicalDescriptionID>
    </ContactlessChipConfiguration>
  </HybridCardConfiguration>
</CardChipConfiguration>
</ProductConfiguration>
<PackageConfigID>0000000001</PackageConfigID>
</BatchConfiguration>
<ShippingOrderData>
  <ShippingID>3</ShippingID>
  <BatchUID>78727</BatchUID>
  <ShippingType>0000000003</ShippingType>
  <ShippingClientOrderNumber></ShippingClientOrderNumber>
  <ShippingOrganization>FedEx</ShippingOrganization>
  <ExpectedDeliveryDate>2004-3-12</ExpectedDeliveryDate>
  <ShippingMethod>2 days</ShippingMethod>
  <CardNb>100</CardNb>
</ShippingOrderData>
</SiteShippingOrder>

```

C.5 Example Shipping Delivery Descriptors

C.5.1. Shipping Delivery Descriptor - Contact

```

<?xml version="1.0" encoding="UTF-8"?>
<SiteShippingDelivery xmlns="http://www.activcard.com/xml/ns/acms/batch/2.0"
  xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/2.0 C:\batch_2.0_Option2-
  ActivCard-Update-2-2-2004.xsd">
  <SchemaVersion>0000000002</SchemaVersion>
  <Header>
    <DocID>SD-CAC-GEM-78727</DocID>
    <Date>2001-12-17T09:30:47-05:00</Date>
    <Author>DMDC</Author>
    <Comment>Site delivery</Comment>

```



```
<TaskOrder>GS-1-2-123</TaskOrder>
<PurchaseOrder>256</PurchaseOrder>
</Header>
<CustomerInfo>
  <CustomerID>DMDC-01</CustomerID>
</CustomerInfo>
<DeliveryPlaceInfo>
  <DeliveryPlaceID>101417</DeliveryPlaceID>
  <OrganizationName>MCB Quantico</OrganizationName>
  <Address>123 Main Street</Address>
  <Address2>Marine Corps Personnel Division </Address2>
  <Address3 />
  <City>Quantico</City>
  <ZipCode>22134</ZipCode>
  <State>VA </State>
  <Country>US</Country>
  <MainContactPerson>
    <PersonName>SSGT John Doe</PersonName>
    <Tel1>703-000-0000</Tel1>
    <Tel2></Tel2>
    <Fax></Fax>
    <Email>jdoe@usmc.mil</Email>
  </MainContactPerson>
  <AltContactPerson>
    <PersonName>TURNER EVELYN</PersonName>
    <Tel1>703-000-0001</Tel1>
    <Tel2></Tel2>
    <Fax></Fax>
    <Email>eturner@usmc.mil</Email>
  </AltContactPerson>
  <ShippingInstructions>Regular processing</ShippingInstructions>
</DeliveryPlaceInfo>
<CardManufacturerInfo>
  <CardManufacturerID>Schlumberger-01</CardManufacturerID>
  <OrganizationName>Schlumberger</OrganizationName>
  <Address>45 Main street</Address>
  <Address2></Address2>
  <Address3></Address3>
  <City>Boston</City>
  <ZipCode>65346</ZipCode>
  <State>NE</State>
  <Country>USA</Country>
  <MainContactPerson>
```

```

    <PersonName>Joe Doe</PersonName>
    <Tel1>1-608-578-5001</Tel1>
    <Tel2></Tel2>
    <Fax>1-608-578-0001</Fax>
    <Email>joeDoe@slb.com</Email>
  </MainContactPerson>
</CardManufacturerInfo>
<BatchConfiguration>
<ProductConfiguration>
  <CardProductID>0000000001</CardProductID>
  <PhysicalProductConfiguration>
    <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
  </PhysicalProductConfiguration>
  <CardChipConfiguration>
    <ContactCardConfiguration>
      <RequirementsID>0000000001</RequirementsID>
      <KeyConfigID>0000000001</KeyConfigID>
      <LogicalDescriptionID>0000000001</LogicalDescriptionID>
    </ContactCardConfiguration>
  </CardChipConfiguration>
</ProductConfiguration>
<PackageConfigID>0000000001</PackageConfigID>
</BatchConfiguration>
<SiteShippingDeliveryData>
<ShippingID>3</ShippingID>
<BatchUID>78727</BatchUID>
<CardNb>100</CardNb>
<ShippingOrganization>FedEx</ShippingOrganization>
<MasterTrackingNumber>123456</MasterTrackingNumber>
<CardDataRefList>
  <CardDataRef name="GEM787270001">
    <StackID>GEM787270001</StackID>
  </CardDataRef>
</CardDataRefList>
</SiteShippingDeliveryData>
</SiteShippingDelivery>

```

C.5.2. Shipping Delivery Descriptor - Hybrid

```

<?xml version="1.0" encoding="UTF-8"?>
<SiteShippingDelivery xmlns="http://www.activcard.com/xml/ns/acms/batch/2.0"
  xmlns:ds="http://www.w3.org/2000/09/xmldsig#" xmlns:xsi="http://www.w3.org/2001/XMLSchema-

```

instance" xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/2.0 C:\batch_2.0_Option2-ActivCard-Update-2-2-2004.xsd">

```

<SchemaVersion>0000000002</SchemaVersion>
<Header>
  <DocID>SD-CAC-AXL-78727</DocID>
  <Date>2001-12-17T09:30:47-05:00</Date>
  <Author>DMDC</Author>
  <Comment>Site delivery</Comment>
  <TaskOrder>GS-1-2-123</TaskOrder>
  <PurchaseOrder>256</PurchaseOrder>
</Header>
<CustomerInfo>
  <CustomerID>DMDC-01</CustomerID>
</CustomerInfo>
<DeliveryPlaceInfo>
  <DeliveryPlaceID>101417</DeliveryPlaceID>
  <OrganizationName>MCB Quantico</OrganizationName>
  <Address>123 Main Street</Address>
  <Address2>Marine Corps Personnel Division </Address2>
  <Address3 />
  <City>Quantico</City>
  <ZipCode>22134</ZipCode>
  <State>VA </State>
  <Country>US</Country>
<MainContactPerson>
  <PersonName>SSGT John Doe</PersonName>
  <Tel1>703-000-0000</Tel1>
  <Tel2></Tel2>
  <Fax></Fax>
  <Email>jdoe@usmc.mil</Email>
</MainContactPerson>
<AltContactPerson>
  <PersonName>TURNER EVELYN</PersonName>
  <Tel1>703-000-0001</Tel1>
  <Tel2></Tel2>
  <Fax></Fax>
  <Email>eturner@usmc.mil</Email>
</AltContactPerson>
<ShippingInstructions>Regular processing</ShippingInstructions>
</DeliveryPlaceInfo>
<CardManufacturerInfo>
  <CardManufacturerID>Schlumberger-01</CardManufacturerID>
  <OrganizationName>Schlumberger</OrganizationName>

```

```

<Address>45 Main street</Address>
<Address2></Address2>
<Address3></Address3>
<City>Boston</City>
<ZipCode>65346</ZipCode>
<State>NE</State>
<Country>USA</Country>
<MainContactPerson>
  <PersonName>Joe Doe</PersonName>
  <Tel1>1-608-578-5001</Tel1>
  <Tel2></Tel2>
  <Fax>1-608-578-0001</Fax>
  <Email>joeDoe@slb.com</Email>
</MainContactPerson>
</CardManufacturerInfo>
<BatchConfiguration>
  <ProductConfiguration>
    <CardProductID>0000000001</CardProductID>
    <PhysicalProductConfiguration>
      <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
    </PhysicalProductConfiguration>
    <CardChipConfiguration>
      <HybridCardConfiguration>
        <ContactChipConfiguration>
          <RequirementsID>0000000001</RequirementsID>
          <KeyConfigID>0000000001</KeyConfigID>
          <LogicalDescriptionID>0000000001</LogicalDescriptionID>
        </ContactChipConfiguration>
        <ContactlessChipConfiguration>
          <RequirementsID>0000000002</RequirementsID>
          <KeyConfigID>0000000002</KeyConfigID>
          <LogicalDescriptionID>0000000002</LogicalDescriptionID>
        </ContactlessChipConfiguration>
      </HybridCardConfiguration>
    </CardChipConfiguration>
  </ProductConfiguration>
  <PackageConfigID>0000000001</PackageConfigID>
</BatchConfiguration>
<SiteShippingDeliveryData>
  <ShippingID>3</ShippingID>
  <BatchUID>78727</BatchUID>
  <CardNb>100</CardNb>
  <ShippingOrganization>FedEx</ShippingOrganization>

```

```
<MasterTrackingNumber>123456</MasterTrackingNumber>
<CardDataRefList>
  <CardDataRef name="AXL787270001">
    <StackID>AXL787270001</StackID>
  </CardDataRef>
</CardDataRefList>
</SiteShippingDeliveryData>
</SiteShippingDelivery>
```

C.6 Description of all XML schema fields per attribute

All attributes declared below are mandatory unless specified otherwise (optional).

- If an attribute presence is mandatory but its content is not constraint the comment will use a MAY in the description of the actual content of that attribute.
- If an attribute is mandatory and its content is constraint, the comment will indicate a MUST in the description of the attribute.

C.6.1 General

No	Element Name	Type	Comment
1	Xmlns	NameSpace	<ul style="list-style-type: none"> ▪ TargetName space for all XML files documented in the pre-issuance requirements. ▪ All XML files produced by the card manufacturer MUST comply with this schema.
2	Xmlns	BatchCommitDataType DeliveryType	Terms used in former schemas. Removed as of 4.1.

C.6.2 Header Type

No	Element Name	Type	Comment
3	DocID	StandardIDType	<p>Identifier of the XML document.</p> <p>The DocID MUST follow the following format:</p> <ul style="list-style-type: none"> ▪ XX-CUSTOMER-CAC-CMID-N <ul style="list-style-type: none"> ▪ Where XX is the type of file: <ul style="list-style-type: none"> ▪ BO: Batch Order Descriptor ▪ BD: Batch Delivery descriptor ▪ S0: Shipping Order Descriptor

No	Element Name	Type	Comment
			<ul style="list-style-type: none"> ▪ SD: Shipping Delivery descriptor ▪ CUSTOMER <ul style="list-style-type: none"> ▪ Department of Defense CAC ▪ Department of Interior DOI ▪ National Aeronautics and Space Administration NASA ▪ Department of Veteran's Affairs DoVa ▪ Department of Homeland Security DHS ▪ Department of State DoS ▪ Department of Transportation DoT ▪ Transportation Safety Administration TSA ▪ General Services Administration GSA <p>CardManufacturer is the identifier of the Card Manufacturer as follows:</p> <ul style="list-style-type: none"> ▪ Oberthur OCS ▪ Schlumberger SLB (Legacy) ▪ Axalto AXL ▪ Gemplus GEM ▪ Giesecke & Devrient GDA <p>N: Is the unique identifier of the Batch or Shipping Delivery descriptor. Example: SD-CAC-OCS-1.</p> <p>Note: The name of the XML file sent electronically by the card manufacturers MUST follow the same format, with the addition of the xml extension. Example:</p>

No	Element Name	Type	Comment
			SD-CAC-AXL-1.xml contains the Shipping Delivery Descriptor from Axalto with the ShippingID of 1.
4	Date	xsd:dateTime	Date of production of the file
5	Author	String	Author of the file
6	TaskOrder	String	<ul style="list-style-type: none"> ▪ Current DMDC product cannot populate this field ▪ Field will be available for CMID use and will be ignored by current DMDC product
7	PurchaseOrder	String	<ul style="list-style-type: none"> ▪ Current DMDC product cannot populate this field ▪ Field will be available for CMID use and will be ignored by current DMDC product
8	Comment	String	Free comment

C.6.3 ContactPersonInfoType

No	Element Name	Type	Comment
9	PersonName	String	First and Last name of the contact person
10	Tel1 Tel 2	String Optional	Full telephone number with area code
11	Fax	String Optional	Full fax number with area code
12	Email	String	email address

C.6.4 DeliveryPlaceInfoType

No	Element Name	Type	Comment
13	DeliveryPlaceID	StandardIDType	<p><i>Batch Order Descriptor:</i> MUST be Left blank</p> <p><i>Shipping Order Descriptor:</i> MUST contain the deliveryplaceID of the corresponding site.</p> <p><i>Batch Delivery Descriptor:</i> MAY contain a copy of the Card ManufacturerID value from the from the</p>

No	Element Name	Type	Comment
			CardManufactureInfo structure for that Delivery. <i>Shipping Delivery Descriptor:</i> MUST contain the copy of the information found in the corresponding SOD.
14	OrganizationName	String	<i>Batch Order Descriptor:</i> MUST be Left blank <i>Shipping Order Descriptor:</i> MUST contain the organization name of the corresponding site. <i>Batch Delivery Descriptor:</i> MAY contain the information relative to the Card Manufacturer vault. <i>Shipping Delivery Descriptor:</i> MUST contain the copy of the information found in the corresponding SOD.
15	Address1	String	<i>Batch Order Descriptor:</i> MUST be Left blank <i>Shipping Order Descriptor:</i> MUST contain the address name of the corresponding site. <i>Batch Delivery Descriptor:</i> MAY contain the information relative to the Card Manufacturer vault. <i>Shipping Delivery Descriptor:</i> MUST contain the copy of the information found in the corresponding SOD.
16	Address2	String	<i>Batch Order Descriptor:</i> MUST be Left blank <i>Shipping Order Descriptor:</i> MUST contain the address name of the corresponding site. <i>Batch Delivery Descriptor:</i> MAY contain the information relative to the Card

No	Element Name	Type	Comment
			Manufacturer vault. <u>Shipping Delivery Descriptor:</u> MUST contain the copy of the information found in the corresponding SOD.
17	City	String	<u>Batch Order Descriptor:</u> MUST be Left blank <u>Shipping Order Descriptor:</u> MUST contain the city information corresponding to the site ordering the card. <u>Batch Delivery Descriptor:</u> MAY contain the information relative to the Card Manufacturer vault. <u>Shipping Delivery Descriptor:</u> MUST contain the copy of the information found in the corresponding SOD.
18	ZipCode	String	<u>Batch Order Descriptor:</u> MUST be Left blank <u>Shipping Order Descriptor:</u> MUST contain the zip code of the corresponding site ordering the cards for continental US orders MAY contain zip code for overseas locations <u>Batch Delivery Descriptor:</u> MAY contain the information relative to the Card Manufacturer vault. <u>Shipping Delivery Descriptor:</u> MUST contain the copy of the information found in the corresponding SOD.
19	State	String	<u>Batch Order Descriptor:</u> MUST be Left blank <u>Shipping Order Descriptor:</u>

No	Element Name	Type	Comment
			<p>MUST contain the state of the corresponding site ordering the cards for Continental US location. MAY for overseas locations <u>Batch Delivery Descriptor:</u> MAY contain the information relative to the Card Manufacturer vault. <u>Shipping Delivery Descriptor:</u> MUST contain the copy of the information found in the corresponding SOD.</p>
20	Country	String	<p><u>Batch Order Descriptor:</u> MUST be Left blank <u>Shipping Order Descriptor:</u> MUST contain the country of the corresponding site ordering the cards. <u>Batch Delivery Descriptor:</u> MAY contain the information relative to the Card Manufacturer vault. <u>Shipping Delivery Descriptor:</u> MUST contain the copy of the information found in the corresponding SOD.</p>
21	MainContactPerson	ContactPersonInfoType	<p><u>Batch Order Descriptor:</u> MAY be Left blank <u>Shipping Order Descriptor:</u> MUST contain contact information for that site <u>Batch Delivery Descriptor:</u> MAY contain the contact information at the card manufacturer vault site to whom the batch is delivered <u>Shipping Delivery Descriptor:</u> MUST contain the copy of the information found in the corresponding SOD.</p>

No	Element Name	Type	Comment
22	AltContactPerson	ContactPersonInfoType	Optional
23	ShippingInstructions	String	Optional If present, MUST contain the copy of the information found in the corresponding SOD . Special shipping instructions that need to be followed for that particular shipment.

C.6.5 CardManufacturerInfoType

No	Element Name	Type	Comments																		
24	CardManufacturerID	StandardIDType	<p>Must contain the following values:</p> <p><u>Card Manufacturer ID (XML)</u></p> <table> <tr> <td>Oberthur</td> <td>Oberthur-01</td> </tr> <tr> <td>Schlumberger</td> <td>Schlumberger-01 (Legacy)</td> </tr> <tr> <td>Axalto</td> <td>Axalto-01</td> </tr> <tr> <td>Gemplus</td> <td>Gemplus-01</td> </tr> <tr> <td>Giesecke and Devrient</td> <td>GDA-01</td> </tr> </table> <p><u>Card Manufacturer ID Card Capability Container (CCC)</u></p> <table> <tr> <td>Axalto</td> <td>01</td> </tr> <tr> <td>Oberthur</td> <td>02</td> </tr> <tr> <td>Gemplus</td> <td>03</td> </tr> <tr> <td>Giesecke and Devrient</td> <td>04</td> </tr> </table>	Oberthur	Oberthur-01	Schlumberger	Schlumberger-01 (Legacy)	Axalto	Axalto-01	Gemplus	Gemplus-01	Giesecke and Devrient	GDA-01	Axalto	01	Oberthur	02	Gemplus	03	Giesecke and Devrient	04
Oberthur	Oberthur-01																				
Schlumberger	Schlumberger-01 (Legacy)																				
Axalto	Axalto-01																				
Gemplus	Gemplus-01																				
Giesecke and Devrient	GDA-01																				
Axalto	01																				
Oberthur	02																				
Gemplus	03																				
Giesecke and Devrient	04																				
25	OrganizationName	String	Organization name of the card manufacturer.																		
26	Address	String	Address of the card manufacturer																		
27	City	String	City																		
28	ZipCode	String	Zip Code																		
29	State	String	State																		
30	Country	String	Country																		
31	MainContactPerson	ContactPersonInfoType	Name of the main contact at the card manufacturer site.																		
32	AltContactPerson	ContactPersonInfoType	Optional																		

C.6.6 PhysicalProductConfigurationType and ProductConfigurationType

No	Element Name	Type	Comments
----	--------------	------	----------

No	Element Name	Type	Comments
33	CardProductID	StandardIDType	Code identifying the productId per chapter 4.2 of this document
34	PhysicalDescriptionID	StandardIDType	Code identifying the physical card requirement per chapter 4.4 of this document
35	PackageConfigID	StandardIDType	Code identifying the package requirement per chapter 5.4 of this document
36	KeyConfigID	StandardIDType	Code identifying the key configuration per chapter 3.3 of this document
37	LogicalDescriptionID	StandardIDType	Code identifying the logical description per chapter 4.5 of this document

C.6.7. BatchOrderDataType

No	Element Name	Type	Comments
38	BatchUID	StandardIDType	Unique batch identifier for each order across all batches
39	BatchType	String	Type of the batch – RFU must be set to 0000000001
40	BatchClientOrderNumber	String	RFU
41	ExpectedCommitDate	Date	Optional
42	ExpectedDeliveryDate	Date	Optional
43	CardNb	Short	Number of cards ordered

C.6.8 ShippingOrderDataType

No	Element Name	Type	Comments
44	ShippingID	StandardIDType	Unique identifier for each site order across all batches
45	BatchUID	StandardIDType	Identifier of the corresponding Batch from which the shipment will be made.
46	ShippingType	String	RFU – MUST be set to 0000000003
47	ShippingClientOrderNumber	String	RFU

No	Element Name	Type	Comments
48	ShippingOrganization	String	Name of the carrier for the cards (with the exact capitalization) as follow: <ul style="list-style-type: none"> ▪ FedEx ▪ UPS ▪ Other (to be specified)
49	Shipping Method	String	Required <ul style="list-style-type: none"> ▪ Next Day ▪ 2 day ▪ 3 day ▪ Ground Ship ▪ Other
50	ExpectedCommitDate	Date	Optional
51	ExpectedDeliveryDate	Date Required	YYYY-DD-MM
52	CardNb	Short	Number of cards.

C.6.9 CardDataType

No	Element Name	Type	Comments
53	StackID	StandardIDType	ID of the stack as defined per this document (5.4.2.2.)
54	CUID	String	Card Unique Identifier as per defined in this document.(4.3.1)
55	BatchSN	String	Unique batch serial Number of the card as defined in this document (4.3.2)
56	CPLCData	String	CPLC as defined in Global Platform specifications.

C.6.10 CardDataRefType

No	Element Name	Type	Comments
57	StackID	StandardIDType	ID of the stack as defined per this document (5.4.2.2.)

No	Element Name	Type	Comments
58	Name	String	Name of the card data reference – MUST contain the first CUID of the corresponding stack.. Note that it is not assumed that the first CUID for each stack is sequential.

C.6.11 BatchDeliveryDataType

No	Element Name	Type	Comments
59	BatchUID	StandardIDType	Unique batch identifier for corresponding order.
60	CardNb	Short	Number of cards
61	ShippingOrganization	String	Optional
62	TrackingNumber	StandardIDType	Optional

C.6.12 CardDataList

No	Element Name	Type	Comments
63	CardData	CardDataType	List of cards

C.6.13 SiteShippingDeliveryDataType

No	Element Name	Type	Comments
64	ShippingID+	StandardIDType	Identifier of the corresponding site order.
65	BatchUID	StandardIDType	Unique batch identifier for corresponding batch order.
66	CardNb	Short	Number of cards
67	ShippingOrganization		Optional Name of the carrier for the cards: FedEx UPS Other
68	MasterTrackingNumber	String	Optional

C.6.13 BatchOrder

No	Element Name	Type	Comments
69	CustomerID	CustomerInfo Type	Identifies who will be receiving the cardstock Specified in Section 5.2.
70	DeliveryPlaceInfo	DeliveryPlaceInfoType	Optional.
71	BatchConfiguration	BatchConfigurationType	Configuration of the batch
72	BatchOrderData	BatchOrderDataType	Batch order information

C.6.14 SiteShippingOrder

No	Element Name	Type	Comments
73	DeliveryPlaceInfo	DeliveryPlaceInfoType	Delivery information related to shipment of cards for that particular shipping order.
74	BatchConfiguration	BatchConfigurationType	Expected Configuration of the batch.
75	ShippingOrderData	ShippingOrderDataType	Shipping order information.

C.6.15 BatchDelivery

No	Element Name	Type	Comments
76	DeliveryPlaceInfo	DeliveryPlaceInfoType	Delivery information related to shipment of cards for that particular batch order. Is the card manufacturer vault.
77	CardManufacturerInfo	CardManufacturerInfoType	Card manufacturer information
78	BatchConfiguration	BatchConfigurationType	Configuration of the batch sent.
79	BatchDeliveryData	BatchDeliveryDataType	Batch information

C.6.16 SiteShippingDelivery

No	Element Name	Type	Comments
----	--------------	------	----------

No	Element Name	Type	Comments
80	DeliveryPlaceInfo	DeliveryPlaceInfoType	Delivery information related to shipment of cards for that particular shipping delivery. Must match the corresponding shipping order delivery place info.
81	CardManufacturerInfo	CardManufacturerInfoType	Card Manufacturer Information for that shipment.
82	BatchConfiguration	BatchConfigurationType	Configuration of the sent shipment.
83	SiteShippingDeliveryData	SiteShippingDeliveryDataType	Shipment information

APPENDIX D – PRE-ISSUANCE SPECIFICATION REVISIONS

Listed below are the revisions of the past and current DoD Pre-Issuance Specifications document.

- Minor edits – Minor grammatical or process clarification changes
- Major edits – New data elements, processes, configuration IDs, or document structure changes

D.1 Pre-Issuance Specification 3.8

Revision Type	Section	Revision
Minor	2.3.1. Batch Order Processing	Process Clarified
Minor	2.3.2. Shipping Order Processing	Process Clarified
Minor	2.3.3. CAC Packaging	Added “stacks of 5”
Minor	4.1.2. Card System	Moved CAC Packaging statement to section 5.
Major	4.2. Card Product ID	New Product IDs noted for 64k cards
Major	4.3.1. Applet Package Download	New Logical Configuration ID added - SLB 64K with no applets
Minor	5.1. Packaging Configuration ID	Process Clarified
Minor	5.1.3. CAC Package (Labels)	OBR changed to OCS
Major	6.1. Batch Configuration	Chart updated to reflect correct configuration IDs and date key ceremony conducted by DMDC
Minor	6.2. Transmission of XML Descriptors	Revised to note correct subject lines. Updated to include DMDC e-mail addresses.
Minor	B.1.1. Setup: Describe and Reference Configuration changes	Process Clarified
Major	Appendix C6	Item 4: Shipping Orders and Batch Orders Doc ID will conform to the same requirement as the Delivery Descriptors

Major	Appendix C6	Item 15: Zip Code may not be included on overseas shipments. In those circumstances the XML file will read <ZipCode/>
Major	Appendix C6	Item16: State may not be included on overseas shipments. In those circumstances the XML file will read <State/>
Major	Appendix C6	Item65: Additional options for shipping organization.

D.2 Pre-Issuance Specification 3.9

Revision Type	Section	Revision
Major	Section 3.3	Revise SLB 64K v1 key configuration IDs (will mirror current 32k IDs)
Major	Section 4.1	Added card Requirement IDs for Contact 64K and Contactless 32K/64K
Major	Section 4.2.	Added Card Product IDs for SLB 64K v1 and v2
Minor	Section 4.2	Remove the 'A' in the card product table for both "Schlumberger Cyberflex Access A 64k v1" and "Schlumberger Cyberflex Access A 64k v2".
Major	Section 4.4.	Added Physical Description IDs for Contact 64K and Contactless 32K/64K
Major	Section 4.5	Revised SLB 64Kv1 logical configuration ID
Minor	Section 4.5	Add "Schlumberger Cyberflex Access A 64K v1" (same diversification method and keyset version/index as 32K)

Major	Section 6.1.	Summary chart updated to include all new IDs
Major	Section B.1.1.	Summary chart updated to include all new IDs
Major	Appendix C6	Item 3: Add HeaderType support for Gemplus : GEM
Major	Appendix C6	Item 20: Added CardManufacturerID Gemplus-01

D.3 Pre-Issuance Specification 4.1.

Revision Type	Section	Revision
Minor	Throughout	Non XML references to “Site” Shipping order or “Site” Delivery Descriptor renamed to remove the word “Site”
Major	Throughout	Card Manufacturer name change: <ul style="list-style-type: none"> ▪ Schlumberger legacy products (32K still noted as SLB) but current products use new name of Axalto (AXL) ▪ Gemplus abbreviation reduced to 3 letters (GEM) Card Product name change: <ul style="list-style-type: none"> ▪ Gemplus GemTwin 64k v1 is Hybrid Product ▪ Gemplus GemXpresso PRO 64K is contact product
Minor	Section 1	Glossary of terms relocated to Appendix F
Minor	Section 2	Sublevels remapped to better fit with subsection. <ul style="list-style-type: none"> ▪ 2.2.1, 2.2.2., and 2.2.3 are now under Section 2.1 (2.1.1, 2.1.2, and 2.1.3) ▪ 2.2.4 is now 2.2.1
Minor	Section 2.3	Sections updated to clarify XML and cardstock packaging processes

Minor	Section 3.1.1.	DMDC key ceremony process bullet removed.
Minor	Section 3.2.1	Paragraph refined
Minor	Section 3.2.2.	<ul style="list-style-type: none"> ▪ 2nd paragraph refined ▪ New Key Class Added (SDK)
Minor	Section 3.2.3.	New Key Class Added (SDK)
Major	Section 3.3	New Key Config IDs added
Major	Section 3.3.2.	Updated to include Contactless Key Config IDs
Major	Section 4.1.	<ul style="list-style-type: none"> ▪ Renamed “Requirements ID” and properties updated to better fit the XML schema ▪ Contactless Table added
Major	Section 4.2.	Table updated
Minor	Section 4.4.1	Diagram added depicting approved surface printing on card.
Minor	Section 4.4.2	<ul style="list-style-type: none"> ▪ New paragraph ▪ Modified to include topology changes
Major	Section 4.5.1.	Gemplus added to table
Minor	Section 4.5.1.3.	New Paragraph added
Minor	Section 4.5.1.4.	Disclaimer regarding package order and V2 applets added
Major	Section 4.5.2	New Logical Config IDs (contactless) added
Major	Section 4.6.	New section added
Major	Section 5	Sublevels remapped to better fit with subsections (i.e. revamped Section 5.4.)
Major	Section 5.1	New Section Added
Major	Section 5.2	New Section Added
Major	Section 5.3	New Section Added
Minor	Section 6.1	Master Chart updated with all new configuration IDs
Minor	Section 6.2.	Chart updated to correctly reflect DMDC process
Minor	Section 6.3	Key Type no longer included in e-mail communications and naming of XML files
Major	Section 6.3.2.	New Bullet added noting potential penalties if XMLs are received late
Major	Section 6.3.3.	New Section added (XML Signing)

Minor	Section B.1.1	Master Chart updated with all new configuration IDs
Major	Appendix C1-C5	New XML Schema and XML examples
Major	Appendix C.6	<ul style="list-style-type: none"> ▪ Address 2, 3 added (13b,c) ▪ Standard ID added (32) ▪ Shipping Organizations (46 and 65) updated ▪ DeliveryPeriod (65b)
Major	Appendix E	New Appendix lists the historic record of all DoD XMLs
Minor	Appendix F	Glossary (relocated from Section 1)
Major	Appendix G	Sample Customs letter to be included with all international shipments

D.4 Pre-Issuance Specification 4.1.2.

Revision Type	Section	Revision										
Major	Throughout	Focus of specification has shifted from a DoD specification to an inclusive Government specification to comply with the direction of the Federal Smart Card Interagency Advisory Board (a workgroup of the Federal Identity Credentialing Committee).										
Major	Pre-Issuance Process Summary	<p>Configuration of certain IDs are either global or local. Global IDs will be defined and updated in the Federal Pre-Issuance Specification. Local IDs will be managed by the person serving as configuration manager/program manager for each each Government Card Issuer:</p> <table border="0"> <tr> <td><u>Label</u></td> <td><u>Scope</u></td> </tr> <tr> <td>CardProductID</td> <td>Global</td> </tr> <tr> <td>CustomerID</td> <td>Global</td> </tr> <tr> <td>PhysicalDescriptionID</td> <td>Global</td> </tr> <tr> <td>RequirementsID</td> <td>Global</td> </tr> </table>	<u>Label</u>	<u>Scope</u>	CardProductID	Global	CustomerID	Global	PhysicalDescriptionID	Global	RequirementsID	Global
<u>Label</u>	<u>Scope</u>											
CardProductID	Global											
CustomerID	Global											
PhysicalDescriptionID	Global											
RequirementsID	Global											

		KeyConfigID Local LogicalDescriptionID Local PackageConfigID Global Batch/ShippingUID Local
Minor	Section 3.1.4.	Section updated to correctly list contactless KMC Diversification
Minor	Section 3.2.2 Transport Keys	Key lable updated to include all CMIDs & Customer IDs
Minor	Section 3.2.4.	Section expanded to include definition for Software Developer Kit keys
Major	Table 3-5 & Table 3-6 Key Config ID Table 4-1 Requirements ID Table 4-4 Card Product ID Table 4-9 Logical IDs	Sections have been updated to include new card manufacturer's and their various products Note: Corrected typo in Requirements ID 2 (incorrectly read 64K contact, updated to note 64K contactless).
Major	Table 4-2	Values updated to include list of possible run time environments and global platform support
Major	Section 4.3.3.	Section updated to correctly reference contactless serial number
Major	Table 4-4 PhyDescrip ID	ID updated to include reserved for future use items
Minor	Table 4-6	Section updated to include Key set Version and Index for all CMIDs
Major	Table 4-8	Package download order updated to include V2 applets
Major	Table 5-2	Customer IDs updated to note various Government Card Issuer's
Minor	Section 6.3.4.	Section updated to include rejection of orders

APPENDIX E – HISTORIC RECORD OF ALL DOD XML SCHEMAS

The batch descriptors are implemented using XML format. The specification is provided in the following XML schema, common for batch order, batch delivery, Shipping Orders and Shipping Delivery descriptors

E.1. Pre-Issuance Specifications (v3.5 to 3.9.3.)

E.1.1. XML Schema (v3.5 to 3.9.3.)

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema targetNamespace="http://www.activcard.com/xml/ns/acms/batch/1.2"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.activcard.com/xml/ns/acms/batch/1.2" elementFormDefault="qualified">
  <xsd:simpleType name="StandardIDType">
    <xsd:annotation>
      <xsd:documentation>This ID is used for all ID inside the batch. Its only constraint is its size
(25)</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="25"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:complexType name="HeaderType">
    <xsd:sequence>
      <xsd:element name="DocID" type="StandardIDType"/>
      <xsd:element name="Date" type="xsd:dateTime"/>
      <xsd:element name="Author" type="xsd:string"/>
      <xsd:element name="Comment" type="xsd:string"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="ContactPersonInfoType">
    <xsd:sequence>
      <xsd:element name="PersonName" type="xsd:string"/>
      <xsd:element name="Tel1" type="xsd:string"/>
      <xsd:element name="Tel2" type="xsd:string"/>
      <xsd:element name="Fax" type="xsd:string"/>
      <xsd:element name="Email" type="xsd:string"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="DeliveryPlaceInfoType">
    <xsd:sequence>
      <xsd:element name="DeliveryPlaceID" type="StandardIDType"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:schema>
```

```

    <xsd:element name="OrganizationName" type="xsd:string"/>
    <xsd:element name="Address" type="xsd:string"/>
    <xsd:element name="City" type="xsd:string"/>
    <xsd:element name="ZipCode" type="xsd:string"/>
    <xsd:element name="State" type="xsd:string"/>
    <xsd:element name="Country" type="xsd:string"/>
    <xsd:element name="MainContactPerson" type="ContactPersonInfoType"/>
    <xsd:element name="AltContactPerson" type="ContactPersonInfoType" minOccurs="0"/>
    <xsd:element name="ShippingInstructions" type="xsd:string" minOccurs="0"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CardManufacturerInfoType">
  <xsd:sequence>
    <xsd:element name="CardManufacturerID" type="StandardIDType"/>
    <xsd:element name="OrganizationName" type="xsd:string"/>
    <xsd:element name="Address" type="xsd:string"/>
    <xsd:element name="City" type="xsd:string"/>
    <xsd:element name="ZipCode" type="xsd:string"/>
    <xsd:element name="State" type="xsd:string"/>
    <xsd:element name="Country" type="xsd:string"/>
    <xsd:element name="MainContactPerson" type="ContactPersonInfoType"/>
    <xsd:element name="AltContactPerson" type="ContactPersonInfoType" minOccurs="0"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchConfigurationType">
  <xsd:sequence>
    <xsd:element name="KeyConfigID" type="StandardIDType"/>
    <xsd:element name="CardRequirementsID" type="StandardIDType"/>
    <xsd:element name="CardProductID" type="StandardIDType"/>
    <xsd:element name="PhysicalDescriptionID" type="StandardIDType"/>
    <xsd:element name="LogicalDescriptionID" type="StandardIDType"/>
    <xsd:element name="PackageConfigID" type="StandardIDType"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchOrderDataType">
  <xsd:sequence>
    <xsd:element name="BatchUID" type="StandardIDType"/>
    <xsd:element name="BatchType" type="xsd:string"/>
    <xsd:element name="BatchClientOrderNumber" type="xsd:string"/>
    <xsd:element name="BatchShippingOrganization" type="xsd:string" minOccurs="0"/>
    <xsd:element name="ExpectedCommitDate" type="xsd:date" minOccurs="0"/>
    <xsd:element name="ExpectedDeliveryDate" type="xsd:date" minOccurs="0"/>
    <xsd:element name="CardNb" type="xsd:short"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ShippingOrderDataType">
  <xsd:sequence>

```

```

    <xsd:element name="ShippingID" type="StandardIDType"/>
    <xsd:element name="BatchUID" type="StandardIDType"/>
    <xsd:element name="ShippingType" type="xsd:string"/>
    <xsd:element name="ShippingClientOrderNumber" type="xsd:string"/>
    <xsd:element name="ShippingOrganization" type="xsd:string"/>
    <xsd:element name="ExpectedCommitDate" type="xsd:date" minOccurs="0"/>
    <xsd:element name="ExpectedDeliveryDate" type="xsd:date" minOccurs="0"/>
    <xsd:element name="CardNb" type="xsd:short"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchCommitDataType">
  <xsd:sequence>
    <xsd:element name="BatchUID" type="StandardIDType"/>
    <xsd:element name="DeliveryList" type="DeliveryListType"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CardDataType">
  <xsd:sequence>
    <xsd:element name="StackID" type="StandardIDType"/>
    <xsd:element name="CUID" type="xsd:string"/>
    <xsd:element name="BatchSN" type="xsd:string"/>
    <xsd:element name="CPLCData" type="xsd:string"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="CardDataRefType">
  <xsd:sequence>
    <xsd:element name="StackID" type="StandardIDType"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="DeliveryType">
  <xsd:sequence>
    <xsd:element name="DeliveryID" type="StandardIDType"/>
    <xsd:element name="ExpectedDeliveryDate" type="xsd:date"/>
    <xsd:element name="CardNb" type="xsd:short"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="DeliveryListType">
  <xsd:sequence>
    <xsd:element name="Delivery" type="DeliveryType" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchDeliveryDataType">
  <xsd:sequence>
    <xsd:element name="BatchUID" type="StandardIDType"/>

```

```

<xsd:element name="CardNb" type="xsd:short"/>
<xsd:element name="ShippingOrganization" type="xsd:string" minOccurs="0"/>
<xsd:element name="TrackingNumber" type="StandardIDType" minOccurs="0"/>
<xsd:element name="CardDataList">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="CardData" type="CardDataType" maxOccurs="unbounded"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="SiteShippingDeliveryDataType">
  <xsd:sequence>
    <xsd:element name="ShippingID" type="StandardIDType"/>
    <xsd:element name="BatchUID" type="StandardIDType"/>
    <xsd:element name="CardNb" type="xsd:short"/>
    <xsd:element name="ShippingOrganization" type="xsd:string" minOccurs="0"/>
    <xsd:element name="TrackingNumber" type="StandardIDType" minOccurs="0"/>
    <xsd:element name="CardDataRefList">
      <xsd:complexType>
        <xsd:sequence>
          <xsd:element name="CardDataRef" type="CardDataRefType"
maxOccurs="unbounded"/>
        </xsd:sequence>
      </xsd:complexType>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
<xsd:element name="BatchOrder">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="Header" type="HeaderType"/>
      <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
      <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
      <xsd:element name="BatchOrderData" type="BatchOrderDataType"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="SiteShippingOrder">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="Header" type="HeaderType"/>
      <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
      <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
      <xsd:element name="ShippingOrderData" type="ShippingOrderDataType"/>
    </xsd:sequence>
  </xsd:complexType>

```

```

    </xsd:complexType>
</xsd:element>
<xsd:element name="BatchDelivery">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="Header" type="HeaderType"/>
      <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
      <xsd:element name="CardManufacturerInfo" type="CardManufacturerInfoType"/>
      <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
      <xsd:element name="BatchDeliveryData" type="BatchDeliveryDataType"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="SiteShippingDelivery">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="Header" type="HeaderType"/>
      <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
      <xsd:element name="CardManufacturerInfo" type="CardManufacturerInfoType"/>
      <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
      <xsd:element name="SiteShippingDeliveryData" type="SiteShippingDeliveryDataType"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
</xsd:schema>

```

E.1.2 Batch Order (v3.5 to 3.9.3.)

```

<?xml version="1.0" encoding="UTF-8" ?>
<BatchOrder xmlns="http://www.activcard.com/xml/ns/acms/batch/1.2"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/1.2 batch_1.2.xsd">
  <Header>
    <DocID>BO-CAC-OCS-1</DocID>
    <Date>2002-01-30T18:01:19</Date>
    <Author>DMDC</Author>
    <Comment>Batch order</Comment>
  </Header>
  <DeliveryPlaceInfo>
    <DeliveryPlaceID />
    <OrganizationName />
    <Address />
    <City />
    <ZipCode />
    <State />

```

```

    <Country />
  :- <MainContactPerson>
    <PersonName></PersonName>
    <Tel1 />
    <Tel2 />
    <Fax />
    <Email></Email>
  </MainContactPerson>
</DeliveryPlaceInfo>
:- <BatchConfiguration>
  <KeyConfigID>000000002</KeyConfigID>
  <CardRequirementsID>000000001</CardRequirementsID>
  <CardProductID>000000002</CardProductID>
  <PhysicalDescriptionID>000000001</PhysicalDescriptionID>
  <LogicalDescriptionID>000000002</LogicalDescriptionID>
  <PackageConfigID>000000001</PackageConfigID>
</BatchConfiguration>
:- <BatchOrderData>
  <BatchUID>1</BatchUID>
  <BatchType>000000001</BatchType>
  <BatchClientOrderNumber />
  <CardNb>300</CardNb>
</BatchOrderData>
</BatchOrder>

```

E.1.3 Batch Delivery Descriptor (v3.5 to 3.9.3.)

```

<?xml version="1.0" encoding="UTF-8" ?>
:- <BatchDelivery xmlns="http://www.activcard.com/xml/ns/acms/batch/1.2"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/1.2 batch_1.2.xsd">
  :- <Header>
    <DocID>BD-CAC-OCS-1</DocID>
    <Date>2002-01-30T18:01:21</Date>
    <Author>Oberthur</Author>
    <Comment />
  </Header>
  :- <DeliveryPlaceInfo>
    <DeliveryPlaceID>Oberthur-01</DeliveryPlaceID>
    <OrganizationName>Oberthur</OrganizationName>
    <Address>1600 Vault St</Address>
    <City>Storage City</City>
    <ZipCode>33333</ZipCode>
    <State>CA</State>
    <Country>USA</Country>
  </DeliveryPlaceInfo>
</BatchDelivery>

```

```

- <MainContactPerson>
  <PersonName>John Doe</PersonName>
  <Tel1>608-578-5000</Tel1>
  <Tel2 />
  <Fax />
  <Email>joe.Doe@ocs.com</Email>
</MainContactPerson>
</DeliveryPlaceInfo>
- <CardManufacturerInfo>
  <CardManufacturerID>Oberthur-01</CardManufacturerID>
  <OrganizationName>Oberthur</OrganizationName>
  <Address>45 Main street</Address>
  <City>Boston</City>
  <ZipCode>65346</ZipCode>
  <State>CA</State>
  <Country>USA</Country>
- <MainContactPerson>
  <PersonName>joeDoe2</PersonName>
  <Tel1>1-608-578-5001</Tel1>
  <Tel2 />
  <Fax />
  <Email>joeDoe2@ocs.com</Email>
</MainContactPerson>
</CardManufacturerInfo>
- <BatchConfiguration>
  <KeyConfigID>000000002</KeyConfigID>
  <CardRequirementsID>000000001</CardRequirementsID>
  <CardProductID>000000002</CardProductID>
  <PhysicalDescriptionID>000000001</PhysicalDescriptionID>
  <LogicalDescriptionID>000000002</LogicalDescriptionID>
  <PackageConfigID>000000001</PackageConfigID>
</BatchConfiguration>
- <BatchDeliveryData>
  <BatchUID>1</BatchUID>
  <CardNb>300</CardNb>
- <CardDataList>
  - <CardData name="20505032101300000001">
    <StackID>1</StackID>
    <CUID>20505032101300000001</CUID>
    <BatchSN>1</BatchSN>
    <CPLCData>20505032144200040101035400007668101314320354145300
      001454035400031F0000000000000000</CPLCData>
  </CardData>
  - <CardData name="20505032101300000002">
    <StackID>1</StackID>
    <CUID>20505032101300000002</CUID>
    <BatchSN>2</BatchSN>

```

```
<CPLCData>2050503214420004010103540000766810131432035414530
0001454035400031F00000000000000000</CPLCData>
</CardData>
```

```
.... _> List of Card
  </CardDataList>
  </BatchDeliveryData>
</BatchDelivery>
```

E.1.4 Shipping Order Descriptor (v3.5 to 3.9.3.)

```
<?xml version="1.0" encoding="UTF-8" ?>
<SiteShippingOrder xmlns="http://www.activcard.com/xml/ns/acms/batch/1.2"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/1.2 batch_1.2.xsd">
  <Header>
    <DocID>SO-CAC-OCS-1</DocID>
    <Date>2002-01-30T18:01:21</Date>
    <Author>DMDC</Author>
    <Comment>Site Shipping Order</Comment>
  </Header>
  <DeliveryPlaceInfo>
    <DeliveryPlaceID>170985</DeliveryPlaceID>
    <OrganizationName>Electronic Data Systems </OrganizationName>
    <Address /> 1600 N Beauregard Street</Address>
    <City>Alexandria </City>
    <ZipCode>22311</ZipCode>
    <State>Virginia</State>
    <Country>US</Country>
  <MainContactPerson>
    <PersonName>Site Manager</PersonName>
    <Tel1 />
    <Tel2 />
    <Fax />
    <Email>cacxml@osd.pentagon.mil</Email>
  </MainContactPerson>
  <ShippingInstructions />
</DeliveryPlaceInfo>
  <BatchConfiguration>
    <KeyConfigID>000000002</KeyConfigID>
    <CardRequirementsID>000000001</CardRequirementsID>
    <CardProductID>000000002</CardProductID>
    <PhysicalDescriptionID>000000001</PhysicalDescriptionID>
    <LogicalDescriptionID>000000002</LogicalDescriptionID>
    <PackageConfigID>000000001</PackageConfigID>
  </BatchConfiguration>
```



```

- <ShippingOrderData>
  <ShippingID>3</ShippingID>
  <BatchUID>1</BatchUID>
  <ShippingType />
  <ShippingClientOrderNumber />
  <ShippingOrganization>FedEx</ShippingOrganization>
  <CardNb>300</CardNb>
</ShippingOrderData>
</SiteShippingOrder>

```

E.1.5 Site Shipping Delivery Descriptor - (v3.5 to 3.9.3.)

```

<?xml version="1.0" encoding="UTF-8" ?>
- <SiteShippingDelivery xmlns="http://www.activcard.com/xml/ns/acms/batch/1.2"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/1.2 batch_1.2.xsd">
- <Header>
  <DocID>SD-CAC-OCS-1</DocID>
  <Date>2002-01-30T18:01:26</Date>
  <Author>Oberthur</Author>
  <Comment />
</Header>
- <DeliveryPlaceInfo>
  <DeliveryPlaceID>100795 </DeliveryPlaceID>
  <OrganizationName>Washington DC Issuance Site</OrganizationName>
  <Address /> 1600 N Beauregard Street
  <City>Alexandria </City>
  <ZipCode>22311</ZipCode>
  <State>VA </State>
  <Country>US</Country>
- <MainContactPerson>
  <PersonName>Joe Doe</PersonName>
  <Tel1 />
  <Tel2 />
  <Fax />
  <Email>cacxml@osd.pentagon.mil</Email>
</MainContactPerson>
  <ShippingInstructions />
</DeliveryPlaceInfo>
- <CardManufacturerInfo>
  <CardManufacturerID>Oberthur-01</CardManufacturerID>
  <OrganizationName>Oberthur</OrganizationName>
  <Address>45 Main street</Address>
  <City>Boston</City>
  <ZipCode>65346</ZipCode>
  <State>CA</State>
  <Country>USA</Country>

```

```

- <MainContactPerson>
  <PersonName>joeDoe2</PersonName>
  <Tel1>1-608-578-5001</Tel1>
  <Tel2 />
  <Fax />
  <Email>joeDoe2@ocs.com</Email>
</MainContactPerson>
</CardManufacturerInfo>
- <BatchConfiguration>
  <KeyConfigID>000000002</KeyConfigID>
  <CardRequirementsID>000000001</CardRequirementsID>
  <CardProductID>000000002</CardProductID>
  <PhysicalDescriptionID>000000001</PhysicalDescriptionID>
  <LogicalDescriptionID>000000002</LogicalDescriptionID>
  <PackageConfigID>000000001</PackageConfigID>
</BatchConfiguration>
- <SiteShippingDeliveryData>
  <ShippingID>1</ShippingID>
  <BatchUID>3</BatchUID>
  <CardNb>300</CardNb>
  <ShippingOrganization>Fedex</ShippingOrganization>
  <TrackingNumber>23467 3434</TrackingNumber>
- <CardDataRefList>
  - <CardDataRef name="20505032101300000001">
    <StackID>1</StackID>
  </CardDataRef>
  - <CardDataRef name="20505032101300000101">
    <StackID>2</StackID>
  </CardDataRef>
  - <CardDataRef name="20505032101300000201">
    <StackID>3</StackID>
  </CardDataRef>
</CardDataRefList>
</SiteShippingDeliveryData>
</SiteShippingDelivery>

```

E.2. Pre-Issuance Specification 3.0

E.2.1. XML Schema (v3.0)

```
<?xml version="1.0" encoding="UTF-8"?>
<!--W3C Schema generated by XML Spy v3.5 NT (http://www.xmlspy.com)-->
<xsd:schema targetNamespace="http://www.activcard.com/xml/ns/acms/batch/1.1"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns="http://www.activcard.com/xml/ns/acms/batch/1.1" elementFormDefault="qualified">
  <xsd:simpleType name="StandardIDType">
    <xsd:annotation>
      <xsd:documentation>This ID is used for all ID inside the batch. Its only constraint is its size
(25)</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="25"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:complexType name="HeaderType">
    <xsd:sequence>
      <xsd:element name="DocID" type="StandardIDType"/>
      <xsd:element name="Date" type="xsd:timeInstant"/>
      <xsd:element name="Author" type="xsd:string"/>
      <xsd:element name="Comment" type="xsd:string"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="ContactPersonInfoType">
    <xsd:sequence>
      <xsd:element name="PersonName" type="xsd:string"/>
      <xsd:element name="Tel1" type="xsd:string"/>
      <xsd:element name="Tel2" type="xsd:string"/>
      <xsd:element name="Fax" type="xsd:string"/>
      <xsd:element name="Email" type="xsd:string"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="DeliveryPlaceInfoType">
    <xsd:sequence>
      <xsd:element name="DeliveryPlaceID" type="StandardIDType"/>
      <xsd:element name="OrganizationName" type="xsd:string"/>
      <xsd:element name="Address" type="xsd:string"/>
      <xsd:element name="City" type="xsd:string"/>
      <xsd:element name="ZipCode" type="xsd:string"/>
      <xsd:element name="State" type="xsd:string"/>
      <xsd:element name="Country" type="xsd:string"/>
      <xsd:element name="MainContactPerson" type="ContactPersonInfoType"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:schema>
```

```

        <xsd:element name="AltContactPerson" type="ContactPersonInfoType" minOccurs="0"
        <xsd:element name="ShippingInstructions" type="xsd:string" minOccurs="0"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="DeliveryPlaceInfoType">
    <xsd:sequence>
        <xsd:element name="DeliveryPlaceID" type="StandardIDType"/>
        <xsd:element name="OrganizationName" type="xsd:string"/>
        <xsd:element name="Address" type="xsd:string"/>
        <xsd:element name="City" type="xsd:string"/>
        <xsd:element name="ZipCode" type="xsd:string"/>
        <xsd:element name="State" type="xsd:string"/>
        <xsd:element name="Country" type="xsd:string"/>
        <xsd:element name="MainContactPerson" type="ContactPersonInfoType"/>
        <xsd:element name="AltContactPerson" type="ContactPersonInfoType" minOccurs="0"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CardManufacturerInfoType">
    <xsd:sequence>
        <xsd:element name="CardManufacturerID" type="StandardIDType"/>
        <xsd:element name="OrganizationName" type="xsd:string"/>
        <xsd:element name="Address" type="xsd:string"/>
        <xsd:element name="City" type="xsd:string"/>
        <xsd:element name="ZipCode" type="xsd:string"/>
        <xsd:element name="State" type="xsd:string"/>
        <xsd:element name="Country" type="xsd:string"/>
        <xsd:element name="MainContactPerson" type="ContactPersonInfoType"/>
        <xsd:element name="AltContactPerson" type="ContactPersonInfoType" minOccurs="0"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchConfigurationType">
    <xsd:sequence>
        <xsd:element name="KeyConfigID" type="StandardIDType"/>
        <xsd:element name="CardRequirementsID" type="StandardIDType"/>
        <xsd:element name="CardProductID" type="StandardIDType"/>
        <xsd:element name="PhysicalDescriptionID" type="StandardIDType"/>
        <xsd:element name="LogicalDescriptionID" type="StandardIDType"/>
        <xsd:element name="PackageConfigID" type="StandardIDType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchOrderDataType">
    <xsd:sequence>
        <xsd:element name="BatchUID" type="StandardIDType"/>
        <xsd:element name="BulkBatchUID" type="StandardIDType" minOccurs="0"/>
        <xsd:element name="BatchType" type="xsd:string"/>
        <xsd:element name="BatchClientOrderNumber" type="xsd:string"/>
        <xsd:element name="BatchShippingOrganization" type="xsd:string"/>
    </xsd:sequence>

```

```

    <xsd:element name="ExpectedCommitDate" type="xsd:date" minOccurs="0"/>
    <xsd:element name="ExpectedDeliveryDate" type="xsd:date" minOccurs="0"/>
    <xsd:element name="CardNb" type="xsd:short"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchCommitDataType">
  <xsd:sequence>
    <xsd:element name="BatchUID" type="StandardIDType"/>
    <xsd:element name="DeliveryList" type="DeliveryListType"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CardDataType">
  <xsd:sequence>
    <xsd:element name="StackID" type="StandardIDType"/>
    <xsd:element name="CUID" type="xsd:string"/>
    <xsd:element name="BatchSN" type="xsd:string"/>
    <xsd:element name="CPLCData" type="xsd:string"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="CardDataRefType">
  <xsd:sequence>
    <xsd:element name="StackID" type="StandardIDType"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="DeliveryType">
  <xsd:sequence>
    <xsd:element name="DeliveryID" type="StandardIDType"/>
    <xsd:element name="ExpectedDeliveryDate" type="xsd:date"/>
    <xsd:element name="CardNb" type="xsd:short"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="DeliveryListType">
  <xsd:sequence>
    <xsd:element name="Delivery" type="DeliveryType" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchDeliveryDataType">
  <xsd:sequence>
    <xsd:element name="BatchUID" type="StandardIDType"/>
    <xsd:element name="CardNb" type="xsd:short"/>
    <xsd:element name="CardDataList">
      <xsd:complexType>
        <xsd:sequence>
          <xsd:element name="CardData" type="CardDataType" maxOccurs="unbounded"/>
        </xsd:sequence>
      </xsd:complexType>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>

```

```

        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="SiteShippingDeliveryDataType">
    <xsd:sequence>
        <xsd:element name="BatchUID" type="StandardIDType"/>
        <xsd:element name="CardNb" type="xsd:short"/>
        <xsd:element name="CardDataRefList">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="CardDataRef" type="CardDataRefType"
                        maxOccurs="unbounded"/>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:element name="BatchOrder">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="Header" type="HeaderType"/>
            <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
            <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
            <xsd:element name="BatchOrderData" type="BatchOrderDataType"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="SiteShippingOrder">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="Header" type="HeaderType"/>
            <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
            <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
            <xsd:element name="BatchOrderData" type="BatchOrderDataType"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="BatchDelivery">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="Header" type="HeaderType"/>
            <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
            <xsd:element name="CardManufacturerInfo" type="CardManufacturerInfoType"/>
            <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
            <xsd:element name="BatchDeliveryData" type="BatchDeliveryDataType"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

```

```

    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="SiteShippingDelivery">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="Header" type="HeaderType"/>
      <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
      <xsd:element name="CardManufacturerInfo" type="CardManufacturerInfoType"/>
      <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
      <xsd:element name="SiteShippingDeliveryData" type="SiteShippingDeliveryDataType"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
</xsd:schema>

```

E.2.2 Batch Order Descriptor (v3.0)

```

<BatchOrder xmlns="http://www.activcard.com/xml/ns/acms/batch/1.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/1.0 batch_1.0.xsd">
  <Header>
    <DocID>BO-CAC-0000000001</DocID>
    <Date>2001-06-01T00:00:00</Date>
    <Author>DMDC</Author>
    <Comment>Sample Batch Order</Comment>
  </Header>
  <DeliveryPlaceInfo>
    <DeliveryPlaceID>EDS-01</DeliveryPlaceID>
    <OrganizationName>EDS</OrganizationName>
    <Address>1600 N Beaufort St</Address>
    <City>Alexandria</City>
    <ZipCode>22304</ZipCode>
    <State>VA</State>
    <Country>USA</Country>
    <MainContactPerson>
      <PersonName>joeDoe</PersonName>
      <Tel1>1-703-578-5000</Tel1>
      <Tel2/>
      <Fax/>
      <Email>joeDoe@eds.com</Email>
    </MainContactPerson>
  </DeliveryPlaceInfo>
  <BatchConfiguration>
    <KeyConfigID>0000000002</KeyConfigID>
    <CardRequirementsID>0000000001</CardRequirementsID>

```

```

    <CardProductID>0000000002</CardProductID>
    <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
    <LogicalDescriptionID>0000000001</LogicalDescriptionID>
    <PackageConfigID>0000000001</PackageConfigID>
  </BatchConfiguration>
  <BatchOrderData>
    <BatchUID>0000000017</BatchUID>
    <BatchType/>
    <BatchClientOrderNumber/>
    <BatchShippingOrganization>Federal Express</BatchShippingOrganization>
    <ExpectedCommitDate>2001-06-04</ExpectedCommitDate>
    <ExpectedDeliveryDate>2001-06-15</ExpectedDeliveryDate>
    <CardNb>2000</CardNb>
  </BatchOrderData>
</BatchOrder>

```

E.2.3 Batch Delivery Descriptor (v3.0)

```

BatchDeliveryxmlns="http://www.activcard.com/xml/ns/acms/batch/1.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/1.0 batch_1.0.xsd">
  <Header>
    <DocID>BD-CAC-0000000001</DocID>
    <Date>2001-06-15T00:00:00</Date>
    <Author>Oberthur</Author>
    <Comment>Batch Delivery sample</Comment>
  </Header>
  <DeliveryPlaceInfo>
    <DeliveryPlaceID>OCS-01</DeliveryPlaceID >
    <OrganizationName>Oberthur</OrganizationName>
    <Address>1600 Vault St</Address>
    <City>Storage City</City>
    <ZipCode>33333</ZipCode>
    <State>CA</State>
    <Country>USA</Country>
    <MainContactPerson>
      <PersonName>joeDoe</PersonName>
      <Tel1>1-608-578-5000</Tel1>
      <Tel2/>
      <Fax/>
      <Email>joeDoe@ocs.com</Email>
    </MainContactPerson>
  </DeliveryPlaceInfo>
  <CardManufacturerInfo>
    <CardManufacturerID>Oberthur-01</CardManufacturerID>
    <OrganizationName>Oberthur Card Systems</OrganizationName>

```



```

<Address/>
<City/>
<ZipCode/>
<State/>
<Country/>
<MainContactPerson>
  <PersonName/>
  <Tel1/>
  <Tel2/>
  <Fax/>
  <Email/>
</MainContactPerson>
</CardManufacturerInfo>
<BatchConfiguration>
  <KeyConfigID>0000000002</KeyConfigID>
  <CardRequirementsID>0000000001</CardRequirementsID>
  <CardProductID>0000000002</CardProductID>
  <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
  <LogicalDescriptionID>0000000001</LogicalDescriptionID>
  <PackageConfigID>0000000001</PackageConfigID>
</BatchConfiguration>
<BatchDeliveryData>
  <BatchUID>0000000017</BatchUID>
  <CardNb>1000</CardNb>
  <CardDataList>
<!--

```

List of all cards

```

  <CardData name="20505032101300007668">
    <StackID>0010</StackID>
    <CUID>20505032101300007668</CUID>
    <BatchSN>001001</BatchSN>
    <CPLCData>20505032144200040101035400007668101314320354145300001454035400031F00
    0000000000000000 </CPLCData>
  </CardData>
  <CardData name="20505032101300007669">
    <StackID>0010</StackID>
    <CUID>20505032101300007669</CUID>
    <BatchSN>001002</BatchSN>
    <CPLCData>20505032144200040101035400007669101314320354145300001454035400031F00
    0000000000000000 </CPLCData>
  </CardData>
</CardDataList>
</BatchDeliveryData>
</BatchDelivery>

```

E.2.4 Site Shipping Order (v3.0)

```
<SiteShippingOrder xmlns="http://www.activcard.com/xml/ns/acms/batch/1.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/1.0 batch_1.0.xsd">
<Header>
  <DocID>SO-CAC-0000000001</DocID>
  <Date>2001-06-01T00:00:00</Date>
  <Author>DMDC</Author>
  <Comment>Sample Batch Order</Comment>
</Header>
<DeliveryPlaceInfo>
  <DeliveryPlaceID>EDS-01</DeliveryPlaceID>
  <OrganizationName>EDS</OrganizationName>
  <Address>1600 N Beauregard St</Address>
  <City>Alexandria</City>
  <ZipCode>22304</ZipCode>
  <State>VA</State>
  <Country>USA</Country>
  <MainContactPerson>
    <PersonName>joeDoe</PersonName>
    <Tel1>1-703-578-5000</Tel1>
    <Tel2/>
    <Fax/>
    <Email>joeDoe@eds.com</Email>
  </MainContactPerson>
  <ShippingInstructions>Fax or email Tracking number</ShippingInstructions>
</DeliveryPlaceInfo>
<BatchConfiguration>
  <KeyConfigID>0000000002</KeyConfigID>
  <CardRequirementsID>0000000001</CardRequirementsID>
  <CardProductID>0000000002</CardProductID>
  <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
  <LogicalDescriptionID>0000000001</LogicalDescriptionID>
  <PackageConfigID>0000000001</PackageConfigID>
</BatchConfiguration>
<BatchOrderData>
  <BatchUID>0000000017</BatchUID>
  <BatchType/>
  <BatchClientOrderNumber/>
  <BatchShippingOrganization>Federal Express</BatchShippingOrganization>
  <ExpectedCommitDate>2001-06-04</ExpectedCommitDate>
  <ExpectedDeliveryDate>2001-06-15</ExpectedDeliveryDate>
  <CardNb>2000</CardNb>
</BatchOrderData>
</SiteShippingOrder>
```

E.2.5 Site Shipping Delivery Descriptor (v3.0)

```
<SiteShippingDelivery xmlns="http://www.activcard.com/xml/ns/acms/batch/1.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/1.0 batch_1.0.xsd">
<Header>
  <DocID>SD-CAC-0000000001</DocID>
  <Date>2001-06-15T00:00:00</Date>
  <Author>Oberthur</Author>
  <Comment>Batch Delivery sample</Comment>
</Header>
<DeliveryPlaceInfo>
  <DeliveryPlaceID>OCS-01</DeliveryPlaceID >
  <OrganizationName>Oberthur</OrganizationName>
  <Address>1600 Vault St</Address>
  <City>Storage City</City>
  <ZipCode>33333</ZipCode>
  <State>CA</State>
  <Country>USA</Country>
  <MainContactPerson>
    <PersonName>joeDoe</PersonName>
    <Tel1>1-608-578-5000</Tel1>
    <Tel2/>
    <Fax/>
    <Email>joeDoe@ocs.com</Email>
  </MainContactPerson>
</DeliveryPlaceInfo>
<CardManufacturerInfo>
  <CardManufacturerID>Oberthur-01</CardManufacturerID>
  <OrganizationName>Oberthur Card Systems</OrganizationName>
  <Address/>
  <City/>
  <ZipCode/>
  <State/>
  <Country/>
  <MainContactPerson>
    <PersonName/>
    <Tel1/>
    <Tel2/>
    <Fax/>
    <Email/>
  </MainContactPerson>
</CardManufacturerInfo>
<BatchConfiguration>
  <KeyConfigID>0000000002</KeyConfigID>
  <CardRequirementsID>0000000001</CardRequirementsID>
```

```

    <CardProductID>0000000002</CardProductID>
    <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
    <LogicalDescriptionID>0000000001</LogicalDescriptionID>
    <PackageConfigID>0000000001</PackageConfigID>
  </BatchConfiguration>
  <SiteOrderDeliveryData>
    <BatchUID>0000000017</BatchUID>
    <CardNb>1000</CardNb>
  <CardDataRefList>

  <!

  -- List of all cards

  -->
    <CardDataRef name="20505032101300007668">
      <StackID>0010</StackID>
    </CardDataRef>
    <CardDataRef name="20505032101300007669">
      <StackID>0010</StackID>
    </CardDataRef>
  </CardDataRefList>
</SiteShippingDeliveryData>
</SiteShippingDelivery>

```

E.3. Pre-Issuance Specification 2.5

E.3.1 XML Schema (v2.5)

```

<?xml version="1.0" encoding="UTF-8"?>
<!--W3C Schema generated by XML Spy v3.5 NT (http://www.xmlspy.com)-->
<xsd:schema targetNamespace="http://www.activcard.com/xml/ns/acms/batch/1.0"
xmlns:xsd="http://www.w3.org/2000/10/XMLSchema"
xmlns="http://www.activcard.com/xml/ns/acms/batch/1.0" elementFormDefault="qualified">
  <xsd:simpleType name="StandardIDType">
    <xsd:annotation>
      <xsd:documentation>This ID is used for all ID inside the batch. Its only constraint is its size
(25)</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
      <xsd:maxLength value="25"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:complexType name="HeaderType">
    <xsd:sequence>

```

```

    <xsd:element name="DocID" type="StandardIDType"/>
    <xsd:element name="Date" type="xsd:timeInstant"/>
    <xsd:element name="Author" type="xsd:string"/>
    <xsd:element name="Comment" type="xsd:string"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ContactPersonInfoType">
  <xsd:sequence>
    <xsd:element name="PersonName" type="xsd:string"/>
    <xsd:element name="Tel1" type="xsd:string"/>
    <xsd:element name="Tel2" type="xsd:string"/>
    <xsd:element name="Fax" type="xsd:string"/>
    <xsd:element name="Email" type="xsd:string"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="DeliveryPlaceInfoType">
  <xsd:sequence>
    <xsd:element name="DeliveryPlaceID" type="StandardIDType"/>
    <xsd:element name="OrganizationName" type="xsd:string"/>
    <xsd:element name="Address" type="xsd:string"/>
    <xsd:element name="City" type="xsd:string"/>
    <xsd:element name="ZipCode" type="xsd:string"/>
    <xsd:element name="State" type="xsd:string"/>
    <xsd:element name="Country" type="xsd:string"/>
    <xsd:element name="MainContactPerson" type="ContactPersonInfoType"/>
    <xsd:element name="AltContactPerson" type="ContactPersonInfoType" minOccurs="0"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CardManufacturerInfoType">
  <xsd:sequence>
    <xsd:element name="CardManufacturerID" type="StandardIDType"/>
    <xsd:element name="OrganizationName" type="xsd:string"/>
    <xsd:element name="Address" type="xsd:string"/>
    <xsd:element name="City" type="xsd:string"/>
    <xsd:element name="ZipCode" type="xsd:string"/>
    <xsd:element name="State" type="xsd:string"/>
    <xsd:element name="Country" type="xsd:string"/>
    <xsd:element name="MainContactPerson" type="ContactPersonInfoType"/>
    <xsd:element name="AltContactPerson" type="ContactPersonInfoType" minOccurs="0"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchConfigurationType">
  <xsd:sequence>
    <xsd:element name="KeyConfigID" type="StandardIDType"/>
    <xsd:element name="CardRequirementsID" type="StandardIDType"/>
    <xsd:element name="CardProductID" type="StandardIDType"/>
    <xsd:element name="PhysicalDescriptionID" type="StandardIDType"/>
  </xsd:sequence>

```

```

        <xsd:element name="LogicalDescriptionID" type="StandardIDType"/>
        <xsd:element name="PackageConfigID" type="StandardIDType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchOrderDataType">
    <xsd:sequence>
        <xsd:element name="BatchUID" type="StandardIDType"/>
        <xsd:element name="BulkBatchUID" type="StandardIDType" minOccurs="0"/>
        <xsd:element name="BatchType" type="xsd:string"/>
        <xsd:element name="BatchClientOrderNumber" type="xsd:string"/>
        <xsd:element name="BatchShippingOrganization" type="xsd:string"/>
        <xsd:element name="ExpectedCommitDate" type="xsd:date"/>
        <xsd:element name="ExpectedDeliveryDate" type="xsd:date"/>
        <xsd:element name="CardNb" type="xsd:short"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchCommitDataType">
    <xsd:sequence>
        <xsd:element name="BatchUID" type="StandardIDType"/>
        <xsd:element name="DeliveryList" type="DeliveryListType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CartonDataType">
    <xsd:sequence>
        <xsd:element name="CartonID" type="StandardIDType"/>
        <xsd:element name="CartonCardNb" type="xsd:short"/>
    </xsd:sequence>
    <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="CardDataType">
    <xsd:sequence>
        <xsd:element name="CartonID" type="StandardIDType"/>
        <xsd:element name="CUID" type="xsd:string"/>
        <xsd:element name="CPLCData" type="xsd:string"/>
    </xsd:sequence>
    <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="DeliveryType">
    <xsd:sequence>
        <xsd:element name="DeliveryID" type="StandardIDType"/>
        <xsd:element name="ExpectedDeliveryDate" type="xsd:date"/>
        <xsd:element name="CardNb" type="xsd:short"/>
    </xsd:sequence>
    <xsd:attribute name="name" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="DeliveryListType">
    <xsd:sequence>

```

```

        <xsd:element name="Delivery" type="DeliveryType" maxOccurs="unbounded"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BatchDeliveryDataType">
    <xsd:sequence>
        <xsd:element name="BatchUID" type="StandardIDType"/>
        <xsd:element name="DeliveryID" type="StandardIDType"/>
        <xsd:element name="TrackingNumber" type="xsd:string"/>
        <xsd:element name="ShippingOrganization" type="xsd:string"/>
        <xsd:element name="CartonNb" type="xsd:byte"/>
        <xsd:element name="CardNb" type="xsd:short"/>
        <xsd:element name="CartonList">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="CartonData" type="CartonDataType"
maxOccurs="unbounded"/>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="CardDataList">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="CardData" type="CardDataType" maxOccurs="unbounded"/>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:element name="BatchOrder">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="Header" type="HeaderType"/>
            <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
            <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
            <xsd:element name="BatchOrderData" type="BatchOrderDataType"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="BatchCommit">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element name="Header" type="HeaderType"/>
            <xsd:element name="CardManufacturerInfo" type="CardManufacturerInfoType"/>
            <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
            <xsd:element name="BatchCommitData" type="BatchCommitDataType"/>
        </xsd:sequence>
    </xsd:complexType>

```

```

</xsd:element>
<xsd:element name="BatchDelivery">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="Header" type="HeaderType"/>
      <xsd:element name="DeliveryPlaceInfo" type="DeliveryPlaceInfoType"/>
      <xsd:element name="CardManufacturerInfo" type="CardManufacturerInfoType"/>
      <xsd:element name="BatchConfiguration" type="BatchConfigurationType"/>
      <xsd:element name="BatchDeliveryData" type="BatchDeliveryDataType"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
</xsd:schema>

```

E.3.2 Batch Order Descriptor (v2.5)

```

<BatchOrder xmlns="http://www.activcard.com/xml/ns/acms/batch/1.0"
xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance"
xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/1.0 batch_1.0.xsd">
  <Header>
    <DocID>BO-CAC-0000000001</DocID>
    <Date>2001-06-01T00:00:00</Date>
    <Author>DMDC</Author>
    <Comment>Sample Batch Order</Comment>
  </Header>
  <DeliveryPlaceInfo>
    <DeliveryPlaceID>EDS-01</DeliveryPlaceID>
    <OrganizationName>EDS</OrganizationName>
    <Address>1600 N Beauregard St</Address>
    <City>Alexandria</City>
    <ZipCode>22304</ZipCode>
    <State>VA</State>
    <Country>USA</Country>
    <MainContactPerson>
      <PersonName>joeDoe</PersonName>
      <Tel1>1-703-578-5000</Tel1>
      <Tel2/>
      <Fax/>
      <Email>joeDoe@eds.com</Email>
    </MainContactPerson>
  </DeliveryPlaceInfo>
  <BatchConfiguration>
    <KeyConfigID>0000000001</KeyConfigID>
    <CardRequirementsID>0000000001</CardRequirementsID>
    <CardProductID>0000000001</CardProductID>

```



```

    <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
    <LogicalDescriptionID>0000000001</LogicalDescriptionID>
    <PackageConfigID>0000000001</PackageConfigID>
</BatchConfiguration>
<BatchOrderData>
  <BatchUID>0000000001</BatchUID>
  <BatchType/>
  <BatchClientOrderNumber/>
  <BatchShippingOrganization>Federal Express</BatchShippingOrganization>
  <ExpectedCommitDate>2001-06-04</ExpectedCommitDate>
  <ExpectedDeliveryDate>2001-06-15</ExpectedDeliveryDate>
  <CardNb>2000</CardNb>
</BatchOrderData>
</BatchOrder>

```

E.3.3 Batch Commit Descriptor (v2.5)

```

<BatchCommit xmlns="http://www.activcard.com/xml/ns/acms/batch/1.0"
xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance"
xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/1.0 batch_1.0.xsd">
  <Header>
    <DocID>BC-CAC-0000000001</DocID>
    <Date>2001-03-07T00:00:00</Date>
    <Author>Schlumberger</Author>
    <Comment>Sample Batch Commit</Comment>
  </Header>
  <CardManufacturerInfo>
    <CardManufacturerID>Schlumberger-01</CardManufacturerID>
    <OrganizationName>Schlumberger Limited</OrganizationName>
    <Address/>
    <City/>
    <ZipCode/>
    <State/>
    <Country/>
    <MainContactPerson>
      <PersonName/>
      <Tel1/>
      <Tel2/>
      <Fax/>
      <Email/>
    </MainContactPerson>
  </CardManufacturerInfo>
  <BatchConfiguration>
    <KeyConfigID>0000000001</KeyConfigID>
    <CardRequirementsID>0000000001</CardRequirementsID>
    <CardProductID>0000000001</CardProductID>

```

```

    <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
    <LogicalDescriptionID>0000000001</LogicalDescriptionID>
    <PackageConfigID>0000000001</PackageConfigID>
  </BatchConfiguration>
  <BatchCommitData>
    <BatchUID>0000000001</BatchUID>
    <DeliveryList>
      <Delivery name="0000000001-01">
        <DeliveryID>0000000001-01</DeliveryID>
        <ExpectedDeliveryDate>2001-06-15</ExpectedDeliveryDate>
        <CardNb>1000</CardNb>
      </Delivery>
      <Delivery name="0000000001-02">
        <DeliveryID>0000000001-02</DeliveryID>
        <ExpectedDeliveryDate>2001-06-22</ExpectedDeliveryDate>
        <CardNb>1000</CardNb>
      </Delivery>
    </DeliveryList>
  </BatchCommitData>
</BatchCommit>

```

E.2.4 Batch Delivery Descriptor - XML Example (v2.5)

```

<BatchDelivery xmlns="http://www.activcard.com/xml/ns/acms/batch/1.0"
xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance"
xsi:schemaLocation="http://www.activcard.com/xml/ns/acms/batch/1.0 batch_1.0.xsd">
  <Header>
    <DocID>BD-CAC-0000000001</DocID>
    <Date>2001-06-15T00:00:00</Date>
    <Author>Schlumberger</Author>
    <Comment>Batch Delivery sample</Comment>
  </Header>
  <DeliveryPlaceInfo>
    <DeliveryPlaceID>EDS-01</DeliveryPlaceID>
    <OrganizationName>EDS</OrganizationName>
    <Address>1600 N Beauregard St</Address>
    <City>Alexandria</City>
    <ZipCode>22304</ZipCode>
    <State>VA</State>
    <Country>USA</Country>
    <MainContactPerson>
      <PersonName>joeDoe</PersonName>
      <Tel1>1-703-578-5000</Tel1>
      <Tel2/>
      <Fax/>
      <Email>joeDoe@eds.com</Email>
    </MainContactPerson>
  </DeliveryPlaceInfo>
</BatchDelivery>

```

```

    </MainContactPerson>
  </DeliveryPlaceInfo>
  <CardManufacturerInfo>
    <CardManufacturerID>Schlumberger-01</CardManufacturerID>
    <OrganizationName>Schlumberger Limited</OrganizationName>
    <Address/>
    <City/>
    <ZipCode/>
    <State/>
    <Country/>
    <MainContactPerson>
      <PersonName/>
      <Tel1/>
      <Tel2/>
      <Fax/>
      <Email/>
    </MainContactPerson>
  </CardManufacturerInfo>
  <BatchConfiguration>
    <KeyConfigID>0000000001</KeyConfigID>
    <CardRequirementsID>0000000001</CardRequirementsID>
    <CardProductID>0000000001</CardProductID>
    <PhysicalDescriptionID>0000000001</PhysicalDescriptionID>
    <LogicalDescriptionID>0000000001</LogicalDescriptionID>
    <PackageConfigID>0000000001</PackageConfigID>
  </BatchConfiguration>
  <BatchDeliveryData>
    <BatchUID>0000000001</BatchUID>
    <DeliveryID>0000000001-01</DeliveryID>
    <TrackingNumber>791515962139</TrackingNumber>
    <ShippingOrganization>Federal Express</ShippingOrganization>
    <CartonNb>2</CartonNb>
    <CardNb>1000</CardNb>
    <CartonList>
      <CartonData name="CT-CAC-0000000001">
        <CartonID>CT-CAC-0000000001</CartonID>
        <CartonCardNb>500</CartonCardNb>
      </CartonData>
      <CartonData name="CT-CAC-0000000002">
        <CartonID>CT-CAC-0000000002</CartonID>
        <CartonCardNb>500</CartonCardNb>
      </CartonData>
    </CartonList>
  <CardDataList>
    <!--
    List of all cards of all cartons here
  </CardDataList>

```

```
-->
  <CardData name="20505032101300007668">
    <CartonID>CT-CAC-0000000001</CartonID>
    <CUID>20505032101300007668</CUID>
    <CPLCData>20505032144200040101035400007668101314320354145300001454035400031F00000
0000000000000 </CPLCData>
  </CardData>
  <CardData name="20505032101300007669">
    <CartonID>CT-CAC-0000000001</CartonID>
    <CUID>20505032101300007669</CUID>
    <CPLCData>20505032144200040101035400007669101314320354145300001454035400031F00000
0000000000000 </CPLCData>
  </CardData>
</CardDataList>
</BatchDeliveryData>
</BatchDelivery>
```

APPENDIX F – GLOSSARY

<i>Acronyms</i>	<i>Definitions</i>
ACO	Access Card Office
AID	Applet Identifier Descriptor
BOD	Batch Order Descriptor
BDD	Batch Delivery Descriptor
CAC	Common Access Card
CPLC	Card Production Life Cycle
CUID	Card Unique Identifier
DES	Digital Encryption Standard
DMDC	Defense Manpower Data Center
HSM	Hardware Security Module
ILP	Inventory Logistics Portal
KCV	Key Check Value
KMC	Master Key set
KDC	Open Platform Key Set
OP	Open Platform
RAPIDS	Real-Time Automated Personnel Identification System
SOD	Shipping Order Descriptor
SDD	Shipping Delivery Descriptor
TK	Transport Keys
UID	Unique Identifier Descriptor

APPENDIX G – SAMPLE CUSTOMS LETTERS

G.1. Sample Customs Letter - DMDC Europe (Germany)

<Month Date, Year>

<Card Manufacturer POC>

<Company>

<Address>

<City, State Zip Code>

<U.S.A.>

FedEx shipment <XYZ>

To Whom It May Concern:

These shipments contain Department of Defense (DoD) - Common Access Card (CAC) 32K chip smartcards for use at U.S. military facilities throughout Europe and Asia/Pacific. The shipment is ***For Official U.S. Government/military use only*** and is being sent to the below address:

DRSC-E, C/O EDS Federal
U.S. Hospital AM Kirchberg
1st Street, Geb 3701: 2.OG
Landstuhl, 66849
Germany
ATTN: John Corrin

Respectfully,

John B. Corrin
Site/SE Manager for the DEERS/RAPIDS Support Center - Europe

G.2. Sample Customs Letter - DMDC Asia (Korea)

<Month Date, Year>

<Card Manufacturer POC>

<Company>

<Address>

<City, State Zip Code>

<U.S.A.>

FedEx shipment <XYZ>

To Whom It May Concern:

These shipments contain Department of Defense (DoD) - Common Access Card (CAC) 32K chip smartcards for use at U.S. military facilities throughout Europe and Asia/Pacific. The shipment is *For Official U.S. Government/military use only* and is being sent to the below address:

DMDC Support Office - Asia/Pacific
Building 1085, Yongsan Army Garrison
Seoul, Korea
ATTN: Bob Miles

Respectfully,

Bob Miles
Site/SE Manager for the DEERS/RAPIDS Support Center - Asia