

UbiQDataPrep™



Next Generation Data Preparation System

UbiQDataPrep™ is part of the UbiQPersoMaster™ suite of smart card personalization solutions. The UbiQDataPrep™ application module is a high performance, scalable data preparation and MULTOS ALU generation system designed to support EMV applications like Visa's VSDC, MasterCard's Mchip, and JCB's J/Smart financial applications as well as loyalty applications, certificates, government IDs and more.

The production of smart cards in single and multi-application environments requires the merging of card and application profiles, keys, certificates, and cardholder data from several sources. UbiQDataPrep™ provides the tools to format and merge smart card data with standard embossing data in preparation for card personalization and production.

UbiQDataPrep™ processes personalization data into a single output file, which may be in the "common personalization specification" (CPS) format – Visa's Pre-Personalization Preparation format – or other common or customized formats. UbiQDataPrep™ output files, when combined with UbiQCardIssue™, can be used with DC9000, NBS Horizon, Digicard, CIM Combi 1000 and other central or remote personalization equipment brands and models.

UbiQDataPrep™ is designed to prepare smart card production data in environments where support for one or more of the following scenarios is required:

- Single or multiple applications like VSDC, M/Chip™, JCB J/Smart, Catuity Loyalty, etc...
- Single or multiple smart card operating
- Systems like Global Platform/Open Platform, MULTOS and Native operating systems
- Single or multiple brands and models of smart card personalization equipment
- Central or remote issuance

Performance Features

The execution of the encryption functions required in the data preparation process can be a time consuming operation, yet still need to be performed within a limited time window each day. Accordingly, it is important to understand all the performance options provided in a data preparation system.

UbiQDataPrep™ incorporates features to maximize the volume of records and number of files that can be processed within a short processing time window.

Multiple instances of UbiQDataPrep™ can be initiated to maximize the number of files processed within a limited time period. Initiating multiple instances allows for parallel, rather than sequential, file processing.

Concurrently accessing multiple HSMs provides for optimum performance (minimum run time) when operating with one or more instances of UbiQDataPrep™. This optimizes the processing time for multiple files and very large files.

Scaleability

UbiQDataPrep™ is scaleable in a number of ways. First, the model and speed of the HSM used can be scaleable. An issuer can start out with a single low cost, slower HSM and migrate to higher speed HSMs as needed. Or an issuer can add up to four HSMs in the DataPrep™ server to process large record volumes in a minimum amount of time. And, the system automatically initiates a second instance of UbiQDataPrep™ when multiple files are scheduled for production at the same time. Finally, the issuer has the option to load the application onto multiple processor servers to attain another level of performance scalability.

Adding Value Everyday



Performance Benchmark

Benchmark tests were performed in the UbiQ software laboratory to establish system performance when processing a complex multi-application card (three applications) in a wide spectrum of daily volumes. These tests were performed using a single copy of UbiQDataPrep™ and between one and four HSMs.

The Card Program used for this testing was a multiple application (debit / credit plus two additional applications) EMV card.

Record volumes of 5,000 to 210,000 records were run. Processing times ranged from a fraction of an hour for the lower volumes with one HSM to eight hours for processing 210,000 records with four HSMs. This benchmark represents a conservative performance result when considering that data for three applications per card was processed in the tests.

Smart Card Operating Systems Supported

- Global Platform/Open Platform
- MULTOS
- Native Operating Systems
- TIBC 3.0

Smart Card Applications Supported

- VSDC for Global Platform/Open Platform
- VSDC for IBM Mask
- VSDC Native OS Cards
- VSDC on TIBC 3.0
- Visa Cash on Multiple Platforms
- MChip Select 4.0, 2.04 and 2.05
- MChip Lite Native OS Cards
- J/Smart on MULTOS
- J/Smart on Global Platform/Open Platform

- J/Smart on Native OS Cards
- Loyalty Applications (Caturity, XLS, Custom)
- Access Applications
- And more...

Version Control

The UbiQDataPrep™ application module uses version control and administrative functions that are part of the UbiQPersoMaster™ administration package. The UbiQPersoMaster™ application is installed in conjunction with the UbiQDataPrep™ application module and enables the management of multiple versions of data preparation configurations for one or many smart card products. In addition, the UbiQPersoMaster™ application has an easy-to-use graphical user interface for accessing numerous other functions including job scheduling, comprehensive auditing, user access control, and production history views.

Scheduler

The scheduling option allows a user to automate the data preparation job execution to eliminate the need for operator intervention. In addition, the scheduler can initiate customized data conversion and preprocessing functions that are linked to each job. This allows issuers to create customized data scrubbing or cross-checking routines to help identify potential errors in their host system extract.

Production Monitoring

This function allows an operator to view the history of the selected Card Program for both the data generation process and the personalization process. The production results include the number of successful and failed cards and the timing for each job. This provides management with the ability to quickly understand the operation's efficiencies and / or issues.

*U.S. Patent #5,684,742, #5,889,941, #6,014,748.
Other Patents Pending.*

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