

P3[®] PERSONALISATION PREPARATION PROCESS CONTACT/CONTACTLESS EMV[®] DATA PREPARATION SOLUTION



Keep control of your Master Key

P3[®] is a turnkey solution comprising of a Windows-based application and a FIPS 140-2 Level 3 approved Hardware Security Module (HSM). It provides a simple low cost EMV[®] data preparation solution for issuers to migrate from magnetic stripe cards to EMV[®] smart cards.

P3[®] enable issuers to securely generate and manage all EMV[®] card key and data in-house, providing full control over the process. Supporting a variety of output formats, the solution gives issuers the flexibility to choose one or more personalisation bureaus for card production.

Key Benefits

- ✓ Delivers 100% in-house control over cryptographic keys.
- ✓ Supports all major card association payment applications.
- ✓ Generates keys and EMV[®] parameters from existing magnetic stripe files.
- ✓ Supports instant issuance and on-demand replacement of cards.



Business Impact

- ✓ Maximise security by retaining control of Master keys
P3[®] integrates seamlessly with a secure database of keys, an EMV[®] certificate authority, and Hardware Security Modules (HSM's) ensuring the highest level of protection for both card data and keys. All key management and cryptographic processing are kept in-house.
- ✓ Freedom to choose the right card for the Job P3[®]
Supports all major open standard and proprietary cards - P3[®] is kept up to date with latest versions of payment scheme applications.
- ✓ Easy integration and automation
The P3[®] preparation solution is front and back-end agnostic - it works with all popular CMS and personalisation systems. An easy-to-use API interface supports the automation of issuer setup and key management prior to job submission.
- ✓ Cost effective
Users can do personalisation in-house or shop- around for the lowest cost production bureau.

PAYMENT SCHEME SUPPORT



DISCOVER



P3[®] Technical Specifications

Card Platforms Supported

P3[®] is card platform independent and as such supports the following card platforms:

- GlobalPlatform
- MULTOS
- Proprietary single and multi-application cards

Operating Systems Supported

The latest version of P3[®] has been tested on the following Windows operating systems:

- Windows 2022 Server
- Windows 11 Professional
- Windows 2019 Server
- Windows 10 Professional
- Windows 2016 Server

Minimum Hardware Configuration

- Computer: Processor 2GHz, 4GB RAM, 256GB HD, 10/100/1000MB Ethernet NIC required
- Display: 1024 x 768 resolution

HSM Support

P3[®]v1.9.5 operates with the following cryptomodules:

- payShield 10K with P3CM firmware (1122.0001 or above) and PS10-P3M license
- P3[®]KeyBlock firmware version 1561:0001 and PS10-P3M license
- Support TLS connection to HSM.
- Support payShield Trusted Management Device (TMD)

Export Restrictions

Both P3[®] Advance and P3[®] Server software are exempt from UK export restrictions (excluding known restricted countries) when sold to financial organisations for predominately financial application usage. For a non-financial application, such as digital ID, it may be necessary to obtain a specific export license.

Applications supported

P3[®] supports the following, but not limited to, major association's card applications:

- AmericanExpress - AEIPS, Expresspay, Expresspay Mobile
- Discover - D-PAS, ZIP
- JCB - J/Smart 1.0, J/Speedy 2.0
- Mastercard - M/Chip Lite, M/Chip 2 Select, M/Chip 4, M/Chip Flex, M/Chip Advance, Contactless, PayPass, PayPass Mobile
- Saudi Arabian Monetary Agency (SAMA)- SPAN2
- Union Pay - PBOC
- Visa - VSDC (SDA, DDA), qVSDC, MSD, VMPA, payWave
- Custom In-country Debit Card Schemes i.e. Dina Card and Meeza scheme

P3[®] supports the following EMV[®] authentication applications:

- MasterCard - CAP (chip authentication program)
- Visa - DPA (dynamic passcode authentication)

P3[®] support an extended version of Global Platform scripting language to enable data generation for non EMV[®] applications.

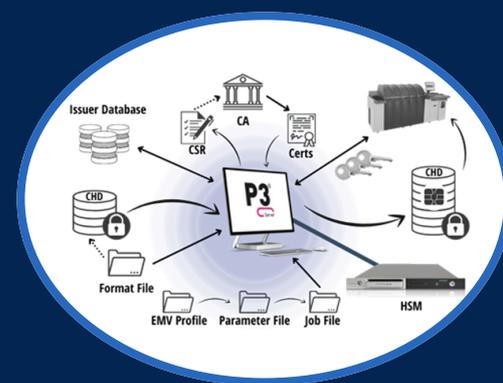
P3[®] Advance vs P3[®] Server

P3[®] Advance is a small to medium volume solution for Mid-sized centralised issuing banks.

P3[®] Server is a scalable volume solution for largescale Issuers and Bureaus.

P3[®] Server offers the following additional functionality:

- Instant and post issuance support
- Caching of RSA keys (KeyCaching)
- Support multiple Hardware Security Modules (HSMs)
- Job submission via Multiple channels TCP/IP, MSMQ, Folder, and GUI
- Support MasterCard Advisor (MA) & Visa Personalization Assistant (VPA) files



The Barnes Advantage

Barnes Smart Solutions is an international technology-driven, solutions company responsible for onward development and servicing of the P3[®] turnkey data preparation solution, as well as research and development of security applications.

New Functionality for P3

Magstripe and Pin generation:

P3[®] can now act as pre-processor for the card holder data file by supporting the generation of magstripe and PIN data (CVV and PVV).

Key Block support:

- Import, export, and storage of keys in Key Block format.
- Translation of the old issuer database to Key Block format encrypted under LMK Key Blocks.
- The ability to support card keys encrypted under Key Block KEKs.

New key admin user group:

In P3[®] V1.9.5, users can authenticate through login prompts at start-up, and there is an added Key Manager user group that necessitates dual login for key management functions.