



P3® PERSONALISATION PREPARATION PROCESS

Contact/Contactless EMV® Data Preparation Solution

KEEP CONTROL OF YOUR MASTER KEYS

P3® is a turnkey solution comprising 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. All the EMV® card keys and data required for the various card association applications are created and managed in-house by the issuer in a range of output formats, delivering flexibility in choosing one or more bureaus for the card personalisation process.

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® links to a secure database of cryptographic keys, to an EMV® certificate authority and to hardware security modules that ensure the highest levels of protection for card data and keys.
- All cryptographic processing and keys are kept in-house.
- Freedom to choose the right card for the Job, P3® supports all major open standard and proprietary cards. It is kept up to date with the 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 everything in-house or shop around for the lowest cost production bureau.



**PAYMENT SCHEMES
SUPPORTED**





THE BARNES ADVANTAGE

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

NEW FUNCTIONALITY FOR P3

MAGSTRIPE & PIN GENERATION

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

KEYBLOCK SUPPORT

P3 V1.9.5 supports key blocks and allows the import and internal storage of keys in key block format, translation of the issuer database to key block LMKs, exporting key block keys, and 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 startup, and there is an added Key Manager user group that necessitates dual login for key management functions.

Applications supported

- P3® supports the following major associations' card applications:
- American Express – 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® supports an extended version of the GlobalPlatform scripting language to enable data generation for non-EMV® applications.

P3® Advance vs P3® Server

P3® Advance is a medium volume solution for Mid-sized centralised issuing banks and small volume bureaux.

P3® Server is a scalable volume solution for large scale Issuers and Bureaus that also offers the following 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
- Support MasterCard Profile Advisor (MPA) & Visa Personalization Assistant (VPA) files

Card Platforms Supported

P3® is a 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 1.9.5 has been tested on the following Windows operating systems:

- Windows 2019 Server
- Windows 2016 Server
- Windows 2012 Server R2- x64
- Windows 2012 Server: x64
- Windows 2008 Server R2: SP 1 x64

Min. 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 crypto modules

- payShield 9000 with P3CM firmware (1122.0922 or above) and PAC907 license (EOL Dec 2022)
- payShield 10K with P3CM firmware (1122.0001 or above) 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 predominantly financial application usage. For a non-financial application, such as a digital ID, it may be necessary to obtain a specific export license.

