



IBM United Kingdom  
**Response to consultation**

**Payments Council  
National Payments Plan**  
Consulting on change in UK payments

4 February 2008

**Introduction**

IBM welcomes the publication of a National Payments Plan which will enable all stakeholders, including service providers and technology vendors, to plan and manage their activities and investments within an agreed strategic vision and time horizon. We believe that the Consultation document covers the key areas that will influence the evolution of payment services in the UK over the next 10 years and wish to congratulate the Payments Council on its decision to include a broadly based public consultation as part of the development process.

IBM and its industry partners are major providers of payment solutions and services worldwide. We hope to continue to assist the National Payments Council throughout the development of the Plan and would welcome the opportunity to share with them the innovative technologies and solutions currently available or under investigation in our Research Labs, specifically in the following relevant areas:

- cheque processing, imaging and archiving
- mobile payments
- service oriented architectures (SOA) and complex event processing (CEP)
- e-invoicing and supply chain finance solutions
- any-to-any format conversion
- systems integrity, operational resilience, contingency planning and business continuity
- fraud detection, security, biometrics and data confidentiality.

We would also wish to highlight our experience in multi-stakeholder programme management, as proven during the chip and PIN roll-out

As new technologies and capabilities emerge, the National Payments Plan should seek to encourage a broad range of parties to enter the payments market through the adoption of an open approach to tendering.

Specific comments and answers to the questions raised in the Consultation paper follow as per the original paragraph and question numbering.

## Section 3: Efficiency

### 3.1 Cheques and the cheque guarantee card scheme

Q1: The Payments Council is minded to develop a proactive industry plan to manage what it sees as the irreversible decline in cheques. Do you agree that a plan for cheques should be developed?

IBM fully supports a proactive industry plan across the full set of stakeholders to manage the decline in UK cheque volumes. Experience in countries where cheques have already been replaced (e.g. Sweden, the Netherlands, and Belgium) shows that:

- a cooperative approach is required, taking into account the needs and habits of all stakeholders: consumers, large and small retailers, SMEs, corporations, government and banks, similar to the concerted plan which led to the successful introduction of chip and PIN in the UK
- efficient and user friendly alternatives must be provided for all payment types across all customer segments
- pricing differentiation should be used to further discourage the use of cheques
- rationing can also be introduced to encourage the use of alternative instruments: for example, Belgian banks gradually brought the number of cheques down to 8 per new book/wallet issued.

Q2: For which types of payment currently made by cheque do new alternatives need to be introduced?

Debit and credit cards offer today an efficient alternative to cheques for face-to-face payments. Portable POS terminals, similar to those used in restaurants, are available with mobile telephone communication to authorisation centres for visiting tradesmen, e.g. plumbers. In Belgium, POS terminals were given free to small merchants such as newspaper shops. Faster Payments will be launched shortly and innovative instruments are likely to be widely available within the time frame envisaged, e.g. contactless and prepaid cards, electronic purses, mobile payments.

For remote payments, payment of salaries and private pensions by direct credit should be made compulsory. Direct debits, whether from a bank account or a credit card, already offer an attractive alternative increasingly used for regular payments such as utility and telephone bills, mortgages, insurance premiums, etc. Occasional payments (e.g. charitable donations, professional/medical fees, person to person) can be effected by internet or telephone banking using direct credits, so rules should be introduced compelling creditors to provide their account number and sort code on invoices, company letterhead, requests for donations, etc. Faster payments will shortly provide an efficient alternative (subject to pricing), as well as mobile payments. E-invoicing/billing will further facilitate this migration and improve the accuracy in transferring reference information.

Small corporates often find cheques to be convenient, partly as a way to manage cash flow, but also as a way to control disbursements as many corporate cheques require dual signature. Also, some market segments (schools are often cited as an example) prefer to collect monies via cheque as the administration is perceived to be simpler. Technology solutions exist to meet these needs, but are often not well packaged and targeted because the market is very fragmented. Consultation with stakeholders and

education should endeavour to segment requirements to assist vendors in developing and marketing solutions.

Remains however for remote payments the “technology-shy” customers, mainly amongst the ageing and vulnerable populations, who are also fearful of fraud as a result of wide press coverage of recent incidents. Several charities and enterprises already accept payments by credit/debit card, either through the mail or by telephone. Technology exists today to enable a one-time direct credit to be initiated from a mobile phone to another mobile phone user. One-time direct debits have been suggested, but their usage is deemed more appropriate for business-to-business, which we would question (see answer to Q11).

Paper forms for direct credits, optimised for optical reading, could be introduced as in Continental Europe. If issued by the creditor (e.g. with an invoice/bill), sort code, account number, references and amount would be pre-printed (as on UK credit clearing forms) requiring the debtor to only enter the account to be debited and signature. Conversely, the banks would issue to each customer requesting this facility pre-printed forms with his/her sort code and account number, name and address, either as initiator or as beneficiary. A study should be conducted to examine the feasibility of converting the credit clearing form and infrastructure for this purpose. This would however be a solution of last resort as it implies replacing paper by paper!

The possible alternatives to cheque are summarised in the table below:

	<b>Face – to – face</b>	<b>Remote</b>
<b>Occasional</b>	Cash Debit card Credit card Prepaid card Contactless card Faster payment Mobile payment	Debit card (paper, telephone or internet) Credit card (paper, telephone or internet) Direct credit ( <i>paper</i> , telephone or internet) One-time direct debit ( <i>paper</i> , telephone or internet) Faster payment Mobile payment
<b>Regular</b>	Not truly relevant, but as above.	Direct credit (for salaries, pensions, benefits) Standing order Direct debit Debit card Credit card Faster payment Mobile payment

Q3: Would it be acceptable for the National Payments Plan to include a target date of 2018 for the closure of the cheque clearing (on the assumption that acceptable alternatives to cheques have been developed)?

A target date must be included to provide a planning deadline for the business case to be quantified, including risk mitigation measures, and to motivate all key stakeholders. In addition, vendors need to make decisions regarding continuity of support and maintenance for cheque processing technology to efficiently manage the sun-setting.

IBM has some concerns, however, that a target date 10 years from publication of the Payments Plan may not create the necessary momentum and stimulate the development of innovative alternatives.

A contingency plan should also be developed, with pre-agreed triggers, in case the decline in cheque volumes accelerates naturally to the point where unit costs become unsustainable.

Q4: What sort of education of users is needed to support the migration away from cheques?

Whilst there is clear benefit for some stakeholders who will be self-motivated to act, the benefit is less clear for others. Segmented education on the alternative instruments and the pricing differentials should be developed.

As was successfully experienced with chip and PIN, a national rollout and marketing plan, supported by a timely and rising TV campaign, should be launched.

Q5: Do you agree that, as part of the National Payments Plan, there should be an objective review of the future of the Cheque Guarantee Card Scheme?

We agree that an orderly and planned withdrawal of the Cheque Guarantee card scheme should precede the discontinuation of cheques to discourage their usage. In Belgium, a campaign to widely publicise cheque fraud cases was launched to further discourage their use.

Q6: What other actions, if any, should there be in the National Payments Plan in relation to cheques?

IBM's recommendations for proactively managing the decline of cheque volumes can be summarised as follows:

- introduce the obligation to mention sort code and account number on every invoice and request for donation to encourage migration from cheque to direct credit, as well as BIC/IBAN for cross-border payments
- introduce compulsory payment of salaries and pensions by direct credit
- encourage the possibility to pay invoices, donations, etc. remotely by debit/credit card
- subsidise POS terminals at small merchants
- promote e-invoicing
- ensure that the government sector gradually discontinues effecting and accepting payments by cheque and adopts compulsory e-invoicing
- re-examine pricing, across all instruments and customer segments, to discourage the use of cheques in favour of more efficient alternatives
- gradually reduce the number of cheques issued in cheque books
- conduct a review of any potential legal implications alongside the elaboration of the withdrawal plan
- develop a segmented and targeted communication plan focusing on:
  - the costs of cheques to all stakeholders, highlighting the savings offered by alternative instruments
  - anticipated benefits of moving away from paper: earlier availability of funds, reduced fraud and errors, faster queries handling, reduced economic and environmental waste.

### 3.2 The credit clearing

Q7: Do you agree that, as part of the National Payments Plan, there should be an objective review of the future of the paper credit clearing?

Yes, for much the same reasons as a plan to proactively manage the decline of cheque. The credit clearing is directly associated with cheques and cash, e.g. payment of credit card or utility bills.

### 3.3 Cash

Q8: The Payments Council believes that the National Payments Plan should be developed on the assumption that cash will remain a major payment method for the foreseeable future. Do you agree?

Yes. Despite the remarkable uptake of card and other electronic-based payments, cash remains the primary “retail” payment mechanism in the UK as it does in other geographies (for example, just over a third of the volume in the US and flat for the last several years). Factors that support the continued use of cash as a form of payment include the anonymity offered by cash as well as its universality of acceptance. Cash’s share of wallet, relative cost of handling and its anticipated persistence over the medium-long term horizon demand that it be included in any comprehensive plan for payments.

Q9: Should the issues of the supply and quality of notes and coin in circulation be within the scope of the National Payments Plan? If so, how should they be addressed?

Across the globe, the management of coin and currency by central banks is coming into question. New models are emerging, some of which encourage privatisation (and commercialisation) of the logistics of the cash supply chain. Typically, these models address all but the issue of quality of notes (leaving the receipt, validation, and destruction of non-fit cash to the central bank in any case). Rather than continue the current model without re-examination, or merely adopt a new model placing management responsibility into the hands of domestic banks, the National Payments Plan should seek to understand and recommend the model that will be appropriate for the UK from a governance, fairness of trade and a business case perspective.

Q10: What other actions, if any, should there be in the National Payments Plan in regard to cash?

The plan should seek to encourage reduction in the volume of cash transactions. Reducing the overall cost of payments by reducing the volume of cash transactions and eliminating delays in cash handling can be a key contribution to the overall efficiency of UK payments. Several of the alternatives to cheque described in Q2 are also valid alternatives to cash.

### 3.4 Direct Debits

Q11: What improvements would lead to the greater take-up of direct debits by users?

The introduction of e-mandates would simplify the setting-up process.

One-off direct debits would be an effective alternative to cheques. The consultation document implies that they would be mainly suited to high value transactions. Our view is that it could also be used for occasional payments in the retail sector: should some customers be confused and fear that they could be entering into a repeated commitment, the “one-off direct debit” could be presented as a credit transfer but processed as a direct debit.

Q12: Would you support the introduction of a time-limited guarantee for direct debits in place of the current unlimited guarantee?

and

Q13: If so, what time limit do you think would be appropriate?

The UK enjoys extremely high utilisation of direct debit, probably because the scheme is very simple to understand and poses little to no perceived risk to the consumer. Introduction of a time limit may be seen as a weakening of the service and thus jeopardise further adoption of direct debits. It would however appear unreasonable to extend the guarantee beyond the legal limitation and retention periods for records. A more specific answer must await conclusion of the SEPA-alignment project currently conducted by Bacs and the legal review on the implementation of the PSD conducted by HM Treasury.

The Council may wish to consider offering a shorter Guarantee Period as an option for selected originators, however the complexity and confusion associated with the implementation and management of this is likely to render it unattractive.

### 3.5 Direct Credits

Q14: What measures to improve the accuracy and end-to-end delivery of reference information, with internet and telephone banking payments and with other direct credits, could usefully be introduced?

A similar procedure to direct debits could be established whereby account identification and reference information could be “tested” when customers set up accounts to which they initiate regular credits.

The introduction of e-invoicing/billing appears to be the only way of achieving 100% accuracy and integrity in end-to-end delivery of reference information: the payment initiation “click” would include copying the remittance information. E-invoicing/billing would also contribute towards cost and fraud reduction.

Q15: Are there any other enhancements you think should be made to direct credits?

As mentioned in our answer to Q2, technology exists today to enable a one-time direct credit to be initiated from a mobile phone towards another mobile phone user. Furthermore primary market research in the UK market carried out recently by one of IBM’s business partners indicates that users are willing to pay a fee for these services

– where typically they resist paying a fee for a similar service based on traditional methods. A national scheme or standard-based mobile payments service would offer greater convenience, and enable a range of new potentially chargeable services, leveraging existing direct credit services, as an alternative to payments services based on pre-funded accounts.

The introduction of machine readable credit transfer forms as in Continental Europe, see our answer to Q2.

### **3.6 Credit cards, debit cards and cash machines**

Q16: What opportunities would you identify to exploit the ATM infrastructure for non-cash transactions? How should these be reflected in the National Payments Plan?

The National Payments Plan should adopt a neutral position with respect to ATM and other cash and non-cash handling devices, including coin and currency recyclers and kiosks, leaving their future direction and services offered through them to market forces. The pervasiveness of these devices, as well as alternative delivery channels such as mobile phones and personal computers, will increase across almost all consumer segments. Alternatives already exist for consumers to obtain cash, such as cashback at retail outlets.

Q17: Which other, if any, actions should there be in the National Payments Plan in relation to credit and debit cards and cash machines?

Some parties have expressed concern that a relatively small number of players dominate the credit card schemes and that significant barriers to entry exist, discouraging potential new entrants. The Plan should make allowance for improvements in schemes and standards which reduce barriers to new entrants and new processes.

Nevertheless, the Plan should also consider the threats to control of the monetary system and the payments industry by opening the system to emerging business models – witness the concerns introduced by person-to-person transactions that fall outside traditional payments system. The Plan should also address the potential for fraud and governance over privacy of consumer information related to payments, including identity theft.

### **3.7 CHAPS and the wholesale markets**

Q18: What improvements should be made to the way in which payments in the wholesale markets are carried out?

Credit Risk and the potential for banks to fail are currently at the forefront within the industry and the wider business, consumer and political communities. There is therefore a continuing need for an RTGS, particularly at the high-value end and for the settlement of ancillary systems. At the same time the pressure on cost will grow as the transaction volumes fall due to cannibalisation by newer systems such as Faster Payments.

IBM believes that payment functionality should be provided as a service within a Service Oriented Architecture (SOA), building individual payment processes from these service components. This drives cost efficiency within IT and the underlying business process layer. To continue this drive, the following are worth considering as the evolution of CHAPS and other payment systems continues:

1. The need for commonality across all settlement systems in the payment standards and integrity checks that are applied to ensure these standards are met.
2. Common security protocols and methodologies for inter-bank, bank to settlement system and bank to customer services.
3. Common standards and methodologies for monitoring liquidity and interbank exposure so that centralised tracking across multiple systems and channels is possible and cost effective.

The final area for consideration has to be the payment window which must allow for both changes to business practices and the ability to manage contingencies such as individual bank system problems which could create a major liquidity risk for an individual bank or systemically.

The concept of DVP applied to CREST is likely to have relevance in other areas where goods or services are traded, e.g. energy, where simultaneous settlement and payment would reduce risk.

### **3.8 SEPA and cross-border payments.**

Q19: What should the Payments Council do to ensure that users in the UK can take best advantage of SEPA?

The SEPA schemes do not theoretically apply to UK domestic sterling payments, but would apply to domestic and cross-border payments in euro to/from domestic euro denominated accounts. The Payments Council should plan for medium-term migration of sterling direct credits and debits to the SEPA SCT and SDD schemes, albeit with the GBP currency code. This would enable banks, corporate customers and CSMs to reduce costs and improve efficiency by standardising processes and IT applications.

The Payments Council should support the development of value-added services, such as e-invoicing, to meet the objectives of the Lisbon agenda whilst retaining the UK's leading role in financial services.

Q20: What issues does SEPA raise for your use of payments?

SEPA provided additional justification for our internal project to concentrate all IBM's European payment processing into one service centre.

Q21: What improvements should be made to cross-border payments?

Lower fees, faster execution.

In terms of terminology, it might be worth distinguishing between cross-currency payments requiring a currency conversion and cross-border payments which, in the case of the euro, involve one currency.

### **3.9 Measures to enhance users' efficiency**

Q22: What measures to enhance users' efficiency should be considered by the Payments Council?

The introduction of account identifier codes, similar to UPIC (Universal Payment Identification Codes) and UID (Universal Identification Numbers) in the US, would enable business users to preserve the confidentiality of account information and facilitate account portability.

## **Section 4: Innovation**

### **4.1 Contactless and prepaid cards**

Q23: Do you agree that at the present stage of market development the contactless and prepaid card sectors are best left to initiatives from individual payment service providers and the card schemes?

On the whole, yes. However two potential issues need to be monitored

1. Too few providers can lead to stagnation and lack of innovation, hence the Payments Council should work towards ensuring that standards (de facto or otherwise) are published and barriers to entry kept low
2. Too many schemes could lead to significant inefficiency. In the UK today no interoperability exists between, for instance, the Oyster London transport card, intercity transport, urban transport cards in other cities, car parking and road toll schemes. Many of the prepaid card schemes across Europe, whilst being based on the common currency, are proprietary in nature and not usable in different countries. Deployment of technology in a proprietary manner, by a relatively small number of market-dominant service providers, could result in a series of distinct-at-consumer schemes emerging. Consideration should be given to publishing open standards, which would not be mandatory but would be recommended to ensure interoperability.

Q24: What support, if any, could the National Payments Plan offer to the development of contactless cards? In particular, is further action needed to ensure that the standards for contactless cards meet the needs of all sectors of users?

Whilst contactless cards continue to be used to store and transact relatively small values, little involvement is probably the appropriate approach as long as interoperability is provided. However, in the event that cards begin to be used – and hence relied upon – for values representing a greater proportion of consumers' income, some measures to protect consumers, such as certification to a set of scheme rules, may become more appropriate.

Q25: What support, if any, can the National Payments Plan offer to the development of prepaid cards?

See answers to Q23, 24.

The Payments Council should also investigate the introduction of a national electronic purse card, similar to those implemented in Belgium (Proton) and the Netherlands (ChipNick). The purse functionality would be added to the debit or other hybrid card.

Q26: What role should the Payments Council play in the development of mobile payment services, including setting the standards for mobile payments?

Adoption of mobile payments would accelerate decline in cheque and cash volumes, and would provide a greater degree of convenience to users.

One of the primary barriers to adoption is consumers concern about security. Many of the innovators in this market are small, and lack the 'punch' to change consumer perception at national level. The Council should therefore consider setting minimum standards for security – perhaps a certification scheme – to which suppliers could adhere.

Q27: In particular, do you agree that the National Payments Plan should support the development of mobile payment services between bank accounts?

Yes, as such services would offer greater convenience to users than exists today and the technology exists. In particular, support should be given to enabling international account-to-account transfers, a service which would be welcomed by the immigrant and itinerant worker population.

Q28: What principal characteristics would users find attractive in a mobile payment service?

IBM and its partners have carried out extensive research in this area. Topics include:

- domestic P2P transactions, for which primary market research shows UK users are prepared to pay a fee
- international P2P transactions, for which primary market research shows UK users are prepared to pay a substantial fee
- m-Billing, a service IBM has been running in conjunction with a partner on behalf of several billers for around 10 years.

Q29: What role do mobile phone payments potentially play in providing alternatives to traditional forms of payment?

As explained in the answer to Q2, we believe that mobile payments are an efficient alternative to cheques for face-to-face and remote payments. In an advanced economy such as the UK, mobile phones are of greatest value for transactions which are urgent and inconvenient to execute by other means. They are often closely associated with the business transaction when instant payment is required, for instance:

- buying a take-away meal (without resort to voice)
- paying for street parking

- topping up a mobile phone
- completing a face-to-face trade (without resort to cash)
- enabling an itinerant worker to route a proportion of his income to his family overseas without resorting to cash.

Q30: What other actions, if any, should there be in the National Payments Plan in regard to mobile payments?

The Plan should address:

1. Security – minimum standards for devices and schemes providing payments services
2. Security – advice and education to end-users
3. Interoperability.

### 4.3 Supply Chain

Q31: Do you agree that the Payments Council should indicate support for the work of the European Commission Steering Committee on e-invoicing and associated activity, including the development of international standards that facilitate supply chain efficiency?

Yes, UK consumers, industry in general, and the financial industry all stand to benefit.

Q32: What role should the National Payments Plan play in moving this agenda forward?

Full international standardisation will take time to emerge and it would be unreasonable to stifle innovation in this area until then. The National Payments Plan should however ensure that any national solution be interoperable with the emerging international standards so as to maximise re-usable investments for the global marketplace and facilitate “roaming”.

As one of the dominant economies, strategically positioned on trade lanes and with a strong shipping and freight sector, the UK should take a proactive position on this important agenda and actively seek to drive adoption domestically and internationally.

Q33: What other actions should be included in the National Payments Plan?

Ensure adoption of compulsory e-invoicing by the government sector, following the examples in Denmark (since 2005) and Italy (from mid-2008).

E-invoicing and payment cover however only the final step in the supply chain. Corporations are seeking full end-to-end integration of the physical supply chain and the financial chain: from the purchase order through delivery logistics, buyer and seller financing throughout the cycle, invoicing, payment, to final reconciliation for all counterparties. Several banks are developing event-driven Supply Chain Financing services. The National Payments Plan should include monitoring international standardisation developments in this area to ensure interoperability of national schemes.

Q34: What other payment innovations requiring action at industry level should be considered by the Payments Council?

The community being consulted on the plan has the potential to address issues of a much broader scope, with potentially much greater benefit to UK residents and the UK economy, such as improving collection of VAT through adoption of technology across all stakeholders.

The UK is amongst the largest and most influential ‘payments’ nations and has the potential, and perhaps an important role, in driving forward the industry. A ‘national’ perspective could potentially be strongly complementary to the more traditional typically regulatory, technical and politically driven views. Some UK models and schemes involve the collaboration of a number of disparate organisations which do not tend to put focus and effort into promoting the benefits of success at ‘national’ level. The Payments Council should consider acting as “ambassador” to help promote national successes, such as UK Faster Payments and the London congestion charging scheme.

## **Section 5: Other issues**

### **5.1 Education in Payment matters**

Q35: What gaps are there in current financial educational initiatives in regard to payment matters?

Knowledge of the various payment instruments, the related processes to ensure execution in line with service levels and the security surrounding them should be improved at bank staff level in branches and customer care centres.

The Plan should consider the extent to which consumers should be better appraised of the risks involved in making payments; and who carries those risks. All customers should also be more aware of the service levels and pricing of the various instruments.

Q36: What role can the Payments Council play in promoting the education of consumers about the choice of payment methods available to them?  
What other bodies should it work with to deliver this role?

The Payments Council should ensure the availability of “reference” education material covering service levels, benefits, pricing framework, security, etc. to ensure consistency of information by payment service providers in their individual education and marketing campaigns.

The Payments Council should collaborate with organisations of smaller businesses which interact with consumers and have an interest in helping them change to more modern payments methods, such as the Federation of Small Businesses and the Direct Marketing Association.

### **5.2 Financial Inclusion**

Q37: What role can the Payments Council play in promoting financial inclusion?

Ensure wider marketing and availability of information on the basic bank account.

Promote technologies which assist with financial inclusion. For example, the US Treasury Department is introducing a pre-paid debit card to deliver benefit payments to social security recipients.

### **5.3 Payment System Integrity and Contingency**

Q39: What are the main challenges to the integrity of payment systems that need to be addressed collaboratively?

There are two ways to look at this question. Looking at the integrity of a complex payment system and looking at the integrity of payments through a payment system.

The safe settlement of a payment system relies on the seamless execution of well defined processes which, in turn, rely on resilient systems and telecommunication networks: ATM or merchant terminal, ATM/merchant acquirer processing, authorisation, clearing, settlement, issuer processing. These systems are normally operated by the acquirer or the issuer, but are now frequently outsourced to 3rd party processors to achieve economies of scale, either in the UK or offshore, creating a concentration of risk over a wider geographical area.

The integrity of a complex payment system requires more than just the standardisation for infrastructure interoperability. There is a need to focus on basic best working practice for consistency and improvement of integration. For example: security architectural documentation; security data flow models; design, development, build and test standards. Using the most competitive supplier or independent contractors can lead to inconsistencies in design and lack of build documentation which, as organisations have found to their cost, can be very problematic.

Taking a more standardised design approach will make integration easier and, in addition, will highlight areas where shared or alternate infrastructures could be utilised to provide great resilience and contingency capabilities. Working to a security management framework similar to ISO 27001 would help and would also address the point in relation to the need for greater auditability.

Interestingly, other payment system initiatives (i.e. PCI DSS) have left the smaller merchants with a feeling that the bigger financial institutions are mandating a “do as we say, not as we do” culture. The PCI DSS was an attempt to achieve some form of standardisation but unfortunately the standard is not perfect in either its implementation or interpretation.

Still one of the biggest issues that exist for organisations and the integrity of systems are legacy systems and applications. It is still common to see new projects implementing technologies that are no longer regarded as industry standard, particularly in the cryptography arena. This is what will effectively hinder the move towards more open standards and integration and is a key point that needs to be addressed with organisations mandated to provide timescales for change.

The integrity of payments through a complex payment system can only be achieved by Message Integrity or Authentication codes relying on cryptographic techniques. In

order to achieve this within a complex payment system there is a need for the dispersal of cryptographic keys for message validation. The biggest problem with cryptography is the management of the cryptographic keys across dispersed networks.

There are many market solutions, both hardware and software. Mandating design and build standards as well as the architectural documentation will facilitate producing guidelines on cryptographic use point to point. Traditionally this is an area that suffers the lowest level of investment but potentially poses the greatest risk and, as covered in the previous section, the limitations to cryptographic use are legacy applications.

In general, we believe that payment integrity cannot be guaranteed without detailed attention being paid to system design and technical execution and we recommend that the National Payments Council takes the lead in providing guidance and ensuring auditability in these areas.

Regarding business continuity, we assume that the Systemically Important Payment Systems (SIPs) are included in the Critical National Infrastructure (CNI) covered by the Centre for Protection of the National Infrastructure (CPNI).

#### **5.4 Fraud and Security**

Q40: How should consideration of measures against fraud be included in the assessments which the Payments Council makes of proposals for innovation?

The community involved in this consultation exercise is widely representative. There are a number of fraud areas which are challenging, if not impossible, for a single stakeholder to resolve and which can be best addressed as a community at UK (or potentially wider) level, such as money laundering and VAT carousel fraud.

Measures against fraud depend strongly on the ability to trace and correlate events. Many IT tools already exist for this purpose. Some are designed for real time data flow and others are better for analysing large static data warehouses.

In IBM's view, the Payments Council can assist in the development of innovative solutions by (a) ensuring that all payment related information is written in a clear, precise manner that conforms to open standards (i.e. the information should be in XML with a public schema) and (b) more than just the bare information relating to the financial transaction should be published by each party and such information should be retained and accessible for a reasonable period after the transaction is complete. The type of “non-financial” information that would be of use for innovative anti-fraud solutions is closely related to the following questions in this section: e.g. authentication (and one party's view of how reliable they regard the authentication). In addition, it would be very helpful if it were possible to track “long running, multi-party” transactions. Clearly there are issues of business confidentiality involved, but it would obviously be useful to get a picture of an end to end transaction that, say, involved paying in cash in one bank, moving the deposit to other accounts and eventually consolidating the value into a single account outside the UK. Clearly, there is the potential for such information to be misleading but the ability to collect it, transmit it and statistically assess it would add substantially to the level of innovation that was possible.

Q41: How can the National Payments Plan assist with issues of customer authentication? To what extent do these need to be addressed across the payments sector?

Authentication determines the strength of the link between the “asserted identity” that is linked to an actual payment transaction and the “real identity” of the party (human being or corporate body) on whose behalf the payment is being made. A rigorous enrolment and registration process and strong authentication seem the obvious way to reduce fraud. On the other hand this approach is expensive and may render some institutions less competitive in the financial market.

The Payments Council should take the lead here by allowing the financial community greater flexibility with KYC and authentication processes with the proviso that whatever approach is adopted it must be recorded as part of the payment data and there must be a consensus on its relative merits. Equally, all institutions should make it clear what forms of authentication they are prepared to accept and what they regard as acceptable (i.e. what liability model is in operation) for a given transaction.

At the technical level and in the short term, our view is that EMV-CAP should be extended into the on-line domain as fast as possible. Many other forms of two factor authentication have similar theoretical merits but the obstacles to adoption are frequently cost and usability: EMV-CAP avoids these issues.

Finally, one point that is overlooked, in our view, is how to deal with a genuine desire for anonymity. Older technologies and processes will be more difficult to phase out if their replacement is seen to remove this feature. Technologies and products exist that can allow both secure transactions and anonymity (and IBM has patented specific innovations designed for this purpose). This freedom of choice should not be removed unnecessarily.

Q42: Should minimum standards be introduced for authentication of remote transactions? If so, should a common measure of authentication be recommended/mandated?

Yes. Electronic authentication could, if widely adopted, reduce costs and increase automation substantially. However, adoption is partly inhibited by continuous doubt over what standard and scheme will prevail – nobody wants to back ‘the wrong horse’. As a major economy, the UK should seek to enable wide market adoption and standards should be set in a way that encourages rather than inhibits innovation.

This point follows on from our remarks on Q41 above. IBM's view is that several levels of authentication (and the related KYC process) should be admitted but that each combination should be defined in terms of the liabilities to be accepted by each party and, secondly, the strength of the combination should be made an attribute of the transaction protocol itself so that all parties in a chain can, in real time, assess the risks to which they are exposed.

In practice, complete flexibility would be difficult to manage and would cause confusion in the market. Consequently, we recommend defining a set of technology and process standards that correspond to a set of financial models (these would have to take into account not just the value of a specific transaction but, for example, the integrated payment value over an appropriate period). In fact, this kind of level setting

has already occurred in an *ad hoc* manner and it would be appropriate for the Payments Council to formalise the approach.

Q43: How should the National Payments Plan address new technologies, such as biometrics, which may contribute to customer security?

Comments to Q41 and Q42 apply here as well. Biometric technologies and processes are becoming cheaper and more acceptable so there is little reason not to use them as part of the risk reduction process. However, it should be clearly understood that (a) not all biometrics are of equal value (facial recognition is almost always less reliable than fingerprint or iris scanning) and (b) not all biometric systems need to be “tuned” to the same balance between false accept and false reject rates. Because this is likely to remain a complex subject for several years, we recommend that the Payments Council guidelines be primarily aimed at developing the use of biometrics under controlled conditions (e.g. in bank branches or in customer care/call centres).

Q44: What actions, if any, should the National Payments Plan include in regard to data sharing?

Subject to appropriate controls to preserve confidentiality (or by deliberately catering for anonymity), data sharing should not only be encouraged but should be made a mandatory part of the transaction protocol (see our remarks in response to Q40).

In addition, there are strong reasons in favour of sharing data related to fraud rates and to specific fraudulent transactions.

Q45: How can the National Payments Plan help ensure that the burden of fraud prevention is shared equitably across payment service providers and users, including SMEs?

Recent changes to payment processing (particularly the move to EMV-CAP) have given rise to the view that the costs disproportionately fell on SMEs: large financial institutions reduced their fraud losses but SMEs had to buy (or lease) expensive new equipment. One route to a more equitable arrangement might be to allow a more market driven approach: different levels of authentication could be provided coupled to different liability models. More sophisticated payments systems could even support “per transaction pricing” or at least the ability to switch payment processors at short notice. IBM believes the technology exists to provide this dynamic approach but it requires the Payments Council to remove anti-competitive barriers.

Q46: What role should the Payments Council play in raising the profile of fraud and security issues and in lobbying government and the public authorities?

While raising of general awareness of fraud is obviously useful, we believe the UK market is now relatively sophisticated and the Payments Council should take the lead in making information more quantitative and transparent: for example by establishing a set of “authentication levels” and linking these to a set of liability models.

While a wide choice of payment systems (and associated technologies and processes) has some merits, IBM is aware that a completely “free market” in payments could be undesirable: there would be a danger that the high risk end of the spectrum would bring the whole process into disrepute. Once again, this points to the Payments

Council setting a minimum baseline, but also to ensuring that standards are used constructively to maintain innovation and choice.

## 5.5 Standards

Q47: What should be the role of standards in the National Payments Plan? Are the current principles as agreed by the Board a suitable base from which to start? What role should the Payments Council play in influencing international standards developments?

IBM concurs with the high-level principles agreed by the Payments Council. The Payments Council should not get directly involved in the elaboration of standards which are the responsibility of the scheme owners, but should ensure compliance with the agreed principles which would also apply to international standards.

In a networked economy, standards adoption is a key facilitator and accelerator of market change. The size of the UK market, whether measured in terms of consumers, government, general services sector, financial services sector or technology suppliers, is sufficiently large to be strongly influential in acceptance and adoption of standards. The Payments Council should consider proactive involvement in standards adoption where that would lead to benefit for UK consumers, banks and providers.

Q48: What, in particular, should the National Payments Plan say about messaging standards?

The National Payments Plan should state that all new standards should be developed based on the ISO 20022 XML syntax, and define a timetable for migrating existing standards towards XML.

The plan should identify standards which, if adopted widely across stakeholders, would accelerate its end-goals. Where possible, if appropriate standards definitions exist, the focus should be on adoption

## 5.6 Payment costs

Q49: Would you support an initiative, led by the Payments Council, to establish a better understanding of the costs of UK payments? If so, how do you think this should be taken forward? What supporting information do you think would be relevant for such an exercise?

We would welcome the opportunity to support a costing exercise to understand the underlying cost model for payments. We believe that this could be done at an industry level and provide the ability for payment suppliers to understand the benchmarks they should be aiming for without necessarily revealing commercially sensitive information. This would require selection of a methodology that preserves the anonymity of data.

IBM would be pleased to contribute to the study, for instance by providing information on the capabilities and cost models for different technologies.

Breaking down these costs to show the impacts of regulatory, fraud prevention and AML would be a good way of creating understanding within the regulatory bodies of

the impacts of their decisions, particularly regarding access to the provision of payment services by entities which might be subject to a lower level of compliance.

Information should be provided end-to-end on both the technology and the business process costs.

However a potential downside might be that greater transparency could result in greater downward pressure on prices. Whilst that is undoubtedly a good outcome, consideration might be given to models and services which would benefit the UK economy in other ways. For example, e-invoicing seems likely to be welcomed by most if not all stakeholders. It will only achieve market adoption if driven at a national (or wider) level. A business case demonstrating the costs to the economy, and to participants, of the current process and comparing those with a to-be process could be more valuable than a solely cost-based analysis.