



## **Payment Systems & Data Security Workgroup**

### **Charter**

**Approved by HTNG Board of Directors  
Subcommittee 17 July 2007**



**Hotel Technology Next Generation (HTNG) Workgroup Charter**  
**Workgroup Name: Payment Systems & Data Security**  
*Version 1.0*  
**19 July 2007**

## **Overview**

Hotel Technology Next Generation (HTNG), a not-for-profit trade association focused on the development and implementation of advanced technology solutions for the hotel industry, is launching a new workgroup focused on payment systems. HTNG uses the format of focused working groups to bring together hoteliers in need of better solutions, with vendors willing to work collaboratively to design and implement them.

This document is the charter for a workgroup focused on payment systems and data security. Payment systems include bank and credit cards, and more recent payment vehicles such as gift cards, loyalty cards, and non-card devices such as mobile phones.

As with all HTNG working groups, the specific objectives are set by the participants. This charter defines the scope and boundaries of this working group, and identifies some of the issues that are of interest to the companies who provided initial input.

In broad terms, the workgroup scope includes the following potential areas:

- Defining best practices, business processes, and technical approaches for use and processing of payment cards in the hotel industry
- Educating hoteliers and vendors on best practices and compliance requirements for data security
- Developing improved approaches to integration, including the adoption, refinement, or (if required) development of technical standards
- Defining and implementing hospitality-specific functionality

Because many hotel companies operate globally, and the issues vary significantly across world regions and specific countries, the scope of the workgroup is global. The workgroup may choose to focus on specific geographic areas or regional issues at various points of time, or in the context of regional teams or sub-groups.

## **Background**

*Payment systems* encompass a wide range of software, hardware, and protocols that are utilized to facilitate the electronic transfer of funds between buyers and sellers of merchandise and services. The most common instances of payment systems are those that support the use of credit and debit cards.

Payment systems include, but are not limited to, those operated by merchants (typically point-of-sale devices and software), payment gateway processors, merchant bankcard processors, credit card associations, banks, and non-bank card issuers. They can also include systems operated by:

- Loyalty programs, in cases (for example) where loyalty points can be redeemed online or through transactional systems for goods and services.
- Gift card issuers, including hotel brands, individual hotels, and third parties.

Hotels participate in this process as merchants, through contracts with merchant bankcard processors, payment gateway processors, and other parties. However, hotels have a number of unique or unusual aspects that cause them to use payment systems quite differently from other merchants.

- ***Guarantees:*** Most hotels accept credit and debit cards to guarantee reservations. A transaction amount may or may not be authorized, but is in any case not actually charged unless the guest fails to show. This type of transaction is not common among non-hotel merchants.
- ***Time Lapse between Authorization and Draft Capture:*** Hotels typically authorize credit cards at guest check-in, in order to set appropriate guest credit limits. The actual charge (draft capture) is not made until later, when the guest checks out or when an intermediate folio settlement occurs. This requires a balancing act between overauthorizing (which deprives the guest of available credit) or underauthorizing (and risking that sufficient credit will not be available when the guest departs).
- ***Reauthorizations:*** Hotel regularly review and resubmit authorizations for guests approaching their credit limits. A few other merchant types face similar issues, but few need to deal with them multiple times per day, as may be the case for certain hotel guests. Card associations in different regions allow different variances between authorized and settled amounts before there is a negative impact upon interchange. Interchange is the major underlying cost component for the acquiring bank, and can affect merchant service fees to the hotel.
- ***Deposits:*** Hotels may accept deposits, with contractual restrictions that govern whether and how much can be refund in the event of cancellation. In the case of large groups, these deposits can be very large.

- **Third Party Processing:** In the case of both guarantees and deposits, hotels may use agents (such as chain reservation systems) to collect the card information and/or to debit the funds. These agents may use different merchant accounts, or may store and forward the card information to the individual hotel, in a transaction that occurs outside the normal bankcard processing network but that carries card details.
- **Multiple Currencies:** Hotels may set their rates and collect deposits and settlements in non-local currencies, and they may accept cards issued by foreign banks and charge them for local currency amounts that have been converted to the issuing bank's native currency.
- **Geographic Diversity:** Hotel companies may have properties in dozens of different countries, each with its own regulations, business practices, currency restrictions, taxation issues, payment products, and software and service vendors. Lack of international standards makes systems integration very costly for hotels and product vendors alike. In some parts of the world, property management and point-of-sale systems are not integrated with payment gateways at all, due to vendor capabilities or infrastructure, or due to policies of acquiring banks. In these locations, standalone swipe terminals must be used, with resulting operational inefficiencies and dual data entry.
- **Regional Payment Products:** There are numerous regional credit and debit card products that have nonstandard technical requirements and a narrow range of local or regional acquirer support. Examples of these might include China Union Pay, Switch and Solo.
- **Summary Transaction Information:** Hotels must submit summary stay information to card processors that has no counterpart with most other merchants. The nature of the summary information required may vary by card type and world region.
- **Expense Reporting:** Guests, particularly business travelers, often use payment card data feeds to simplify expense reporting. This process is widely implemented for airline tickets, car rental contracts, limousine services, and other travel-related services and provides significant back-end savings to corporate travel departments. For hotels, however, line-item folio detail is required because reimbursable and nonreimbursable expenses, as well as items with varying tax deductibility are intermixed on one folio. Hotels have been working for years to provide such a data feed in order to gain competitive edge in corporate contract negotiations.
- **Inquiry Handling:** Hotels frequently receive inquiries through charge companies from guests querying an additional charge that did not appear on their folio. While many of these charges are legitimate, it is often more expensive for the hotel to research and justify them within the timeframes mandated by the merchant agreement, than to simply write off the amount in question. When they do research it, manual culling of restaurant or room service checks from paper files may be required in order to provide supporting evidence.

- **Hotel Systems Diversity:** Hotels typically operate heterogeneous sets of systems, several of which may require access to payment systems interfaces. These include property management, restaurant point of sale, and retail point of sale. They may also include accounting systems, activity systems, reservation systems, high-speed Internet systems, video-on-demand systems, and others. In some cases the data interfacing requirements for payment processing may exceed the capabilities of the vendors of certain systems that could benefit payment systems access.
- **IT Skills:** Because few hotel companies are able to standardize all of these systems at every hotel, the ultimate integration must generally be accomplished by IT staff at the individual hotels. Few hotels can provide sufficiently skilled resources to do this, yet failure to do it can cause the hotel to face large fines under the Payment Card Industry/Data Security Standards (PCI/DSS) initiative.

For these and other reasons, payment processing for hotels, particularly those operating globally, is perhaps best described as a bunch of disparate systems held together by chewing gum and baling wire. It is very difficult to provide a clean, accurate, and timely set of relevant information to the guest, and hotels face increasing compliance costs as well as large and increasing liability for security breaches.

Every player in the process faces high development costs and operational inefficiencies.

### **Payment System Challenges**

Some of the specific issues that are driving the need for rapid resolution of these issues include initiatives from the payment systems industry, primarily requirements from the card associations.

**Data Security Standard:** The payment card industry has published a global Payment Card Industry Data Security Standard (PCI DSS) requirement, designed to reduce fraud by thwarting electronic theft of sensitive card and personal data. All card association members, merchants and service providers who store, process, or transmit credit card data must comply, including virtually all hotels and many of their third-party service providers. Compliance applies to the transmission, storage and processing of credit card data and covers application programs accepting the credit cards, the infrastructure supporting those applications, and the related business processes. Hotels must ensure compliance by software vendors who store, process or transmit credit cards on their behalf.

For a hotel to be compliant, at an absolute minimum, its property management, point of sale, reservations and payment services systems must be compliant. Many hotels will have other systems that must also be compliant. The specifications for compliance for Visa are published on [www.visa.com/cisp](http://www.visa.com/cisp); MasterCard has issued similar documentation.

If a merchant is above a certain transaction volume<sup>1</sup>, then it must also submit a compliance questionnaire answered in the affirmative, have quarterly scans performed by a certified auditor, and possibly have their compliance fully audited. Some hotels meet the transaction volumes requiring the more stringent proof standards, but the standard of compliance is the same for all merchants, and even smaller merchants may face lesser demands for proof, and even the smallest hotel can face the maximum fines for noncompliance. The fines can be very substantial, quickly amounting to tens of thousands of dollars or more.

Compliance is far from simple, and only a few vendors that serve the hotel industry have been certified as compliant or validated against Visa's Payment Applications Best Practices (PABP) checklist<sup>2</sup>. Those that have done so have found the investment in system modifications to be very significant. Smaller hotel companies may have little or no knowledge of the requirements. Although they are required to enforce them on their vendors, they often lack the knowledge of tools, such as PABP validation, that would allow them to do so.

**Chip and PIN.** Outside North America, the card associations have introduced "liability shift," designed to force various parties engaged in payment processes to either upgrade their security capabilities to a new generation of physical card, or accept greater liability in case of fraud. To read the embedded chip on the new standard (EMV) smart cards, point of sale equipment needs to be upgraded.

These chips are replacing the magnetic stripe as the primary security approach for cards. The chip allows the cardholder to confirm the payment using a Personal Identification Number (PIN) rather than a signature. If a merchant fails to upgrade their own equipment and systems, they may face both higher merchant service fees, and increased chargeback liability for fraudulent transactions.

Visa and MasterCard have mandated that over a period of time, every part of the chain involved in card transactions will need to be able to read the chip on the card. Then if a payment is fraudulent, liability for fraud will shift to the party, issuer or acquirer that is not equipped to handle the chip. If the card has a chip and the merchant cannot read it, and there is fraud, then the acquirer will pass the liability back to the merchant. Liability shift comes into force as follows:

Europe – January 2005

Middle East, Africa, Asia Pacific, Latin America – January 2006

Rest of world, except Canada & USA – January 2007

Canada – April 2010

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[http://usa.visa.com/merchants/risk\\_management/cisp\\_merchants.html?it=c/merchants/risk\\_management/cisp.html|Defining%20Your%20Merchant%20Level#anchor\\_2](http://usa.visa.com/merchants/risk_management/cisp_merchants.html?it=c/merchants/risk_management/cisp.html|Defining%20Your%20Merchant%20Level#anchor_2)

<sup>2</sup> [http://usa.visa.com/download/merchants/cisp\\_payment\\_application\\_best\\_practices.doc](http://usa.visa.com/download/merchants/cisp_payment_application_best_practices.doc)

There is presently no stated date for deployment of Chip and PIN within the United States market. Other card types, such as JCB, are also now deploying Chip and PIN and liability shift.

Chip and PIN card processing generally requires that the cardholder be physically present at the swipe device in order to enter the PIN. If there is no physical nexus, however, the card can be presented through a wireless mobile device. Early introduction of Chip and PIN has centered around retail applications. The complexities of the different types of transactions processed by hotels has only recently begun to gain visibility with the associations.

### **Hotel-Specific Functionality**

Hotels require functionality that is either not required by other merchants, or that is required only by a small subset. While there are providers that are able to deliver some of this functionality, widespread deployment has been hampered by the lack of common interface specifications that would allow those systems to work with traditional hotel systems. Relatively few hotel system providers have developed any interfaces at all to support these requirements.

***Dynamic Currency Conversion.*** Increasingly, hotels are in a position to compete with bankcards to convert transactions to the cardholder's native currency. The option to process their credit card transaction in the guest's home currency makes it easier for business travelers to reconcile their expense accounts, since the final amount of the charge, in the correct currency, is known at the time of settlement. Currency conversion is also a source of considerable revenue for international hotels. The hotel has a contract with a dynamic currency conversion vendor, who provides current conversion rates. If the guest opts in, then the guest's card is charged in his or her home currency. The hotel may earn a commission on this service. Again, there is a limited amount of integration among the payment systems, the hotel application and the dynamic currency conversion system.

Both Visa and MasterCard, while endorsing DCC, have imposed very specific requirements that vary somewhat by card type and by region. In addition to standardization, there is a real need for "Best Practices" for hotel staff training, credits and refunds, integration with hotel systems.

***Folio Line Item Detail.*** Corporate travel departments have converted most expense reporting from paper-based to electronic systems. However, hotel folios represent the major exception, and a source of cost and inefficiency. Not all hotel folio items are reimbursable under various corporate expense policies, and tax-deductibility of different folio line items varies in many countries. For these reasons, the summary charge information provided by card processors is insufficient for expense reporting. Additionally, corporations wishing to reclaim Value Added Taxes on international travel must go through cumbersome manual processes to that can cost 50% or more of the potential savings.

Hotel line item detail is the last obstacle to paperless travel expense reporting and VAT reclaim. Most hotels cannot provide line item detail electronically at all. Card issuers have made substantial investments to address this opportunity but have faced substantial obstacles in achieving integration with hotel property management systems.

***PMS/POS Interface Functionality.*** There are many known opportunities to provide additional functionality between payment systems and hotel systems, but the lack of consistency in payment system interfaces has made deployment financially impractical in most cases. Most property management system (PMS) and point-of-sale (POS) vendors maintain different custom interfaces for each of several payment processors, and few can support more than the most basic functionality. Payment systems and regulations seem to be designed for retail, but not for hospitality. Compliance with new regulations and product capabilities will make these problems even more challenging. Hotels are required to achieve compliance but lack the skills and resources to even understand the requirements in many cases, much less to meet them.

Hotels and guests could also benefit from more functionally rich payment system interfaces, which could enable such things as:

- RFID or stored payment cards for cashless payment on-property.
- Smart cards used for key entry and payment systems, and potentially for other applications (e.g. local transportation) on a shared card
- Kiosk based card processing and smart-card issuance.
- Electronic signature capture
- Recognition of debit vs. credit cards
- Electronic response to potential chargebacks, including electronic transmission of backup documentation
- Multicurrency pricing through dynamic currency conversion at the time of booking through reservations websites and call centers.

### **Workgroup Objectives**

This workgroup would seek to achieve several tangible results. While the specifics would be determined based on the final composition of the workgroup and the priorities of its members, its objectives could include any or all of the following.

- Define **best practices**, and help to educate hoteliers and vendors who need to deal with global payment card initiatives and compliance requirements, as they impact e-commerce, card-present, and card-on-file business in the hotel industry.
- Establish clear, unambiguous **definitions** for transaction types used within the lodging environment (advance reservations, check-in/authorization, incremental authorizations during stay, checkout/settlement, reversal of overauthorizations, late fees/extra charges/no-show fees. Document how each transaction type is affected by the different payment options (e.g. dynamic currency conversion) and security requirements.
- Develop a road map for development in the hospitality payment systems market. Increase the **integration** of payment systems with hospitality business applications. Identify opportunities to mitigate risk, reduce liability, and lower the cost of compliance via improved integration between payment systems and hospitality business applications.
- Define specifications for implementing **hospitality-specific functionality** and for dealing with hospitality-specific issues, consistent with existing technical standards (PCI/DSS, Chip and PIN) issued by the payment card industry.
- Identify **alternative business processes and technical approaches** to the use of payment systems in the lodging industry, for example by eliminating local storage of bankcard numbers in hotel-based systems to reduce risk. Technology exists (using secure "tokens") to allow hotel systems to offload sensitive bankcard data to secure, certified data centers, without losing functionality – but it requires a different paradigm than most PMS and POS providers currently use.

### Scope

To include all hospitality systems which store, transmit or process bankcards, including but not limited to property management, point-of-sale, and reservation systems; and all categories of payment card product and service providers.

### Anticipated Deliverables

One or more solution sets, to be defined by Workgroup, that vendors working together can build, and that hotels can buy, that significantly improve the capabilities of and/or reduce the risk profile of payment systems used within hotels.

In furtherance of the educational and best-practice objectives, the workgroup may also identify deliverables that take the form of white papers or similar documents.

## **Initial Participants**

HTNG has received statements of interest to participate in this workgroup from the following companies. In the coming weeks, we will be solidifying these commitments and others, prior to formal announcement and solicitation of participation.

### *Hotel Companies*

Global Hyatt Corp.  
Marriott International, Inc.  
Wyndham Worldwide Corp.

### *Industry Partners*

BearingPoint  
Cognizant Technology Solutions  
Kilrush Consultancy Ltd.  
Merchant Link  
Planet Payment  
POST Integrations  
Servebase Global Card Solutions

## **Workgroup Membership and Applications**

Membership is open to all companies who have corporate HTNG memberships, companies where one or more employees holds an individual Regular (hotelier) HTNG membership, and companies with fewer than five employees where at least one employee holds an individual Industry Partner membership.

Workgroup participants should be individuals who are empowered to make decisions for their company and who have the technology skills in order to be able to define specifications. Membership in the workgroup may change based on the development phase. Companies may be represented by one or more individuals, and these individuals may be changed over time as needs evolve or as staff responsibilities change.

Individuals holding allied HTNG memberships, such as academic and media members, are eligible to apply as nonvoting members. Individuals holding other types of membership are generally not eligible except by invitation of the workgroup after it has been formed.

Companies and organizations interested in participating may submit applications at <http://www.htng.org/workgroups/common/joinwg.htm> between July 13 and August 13, 2007. The due date may be extended, but after the due date (including any extensions), decisions on new applications will be made by vote of the existing workgroup members.

### **Chairperson or co-chairpersons**

To be selected by the initial workgroup membership from among all participants.

### **Workgroup Decisions**

All HTNG workgroup decisions are made on the basis of one company, one vote. Quorum rules vary by workgroup.

### **Duration**

Maximum of 18 months unless extended by the HTNG Board of Directors.

### **Collaboration process**

Face to face meetings, conference calls, workgroup intranet and e-mail. Depending on regional interest, face-to-face meetings may be held in more than one world region.

### **Industry Representation**

HTNG encourages companies active in the following areas to participate, but there is no requirement or limitation that would exclude other eligible members.

- Hotel, resort, timeshare, casino, cruise, and other operating companies
- Property management system vendors
- Point of sale system vendors
- Reservation system vendors
- Loyalty system programs and software vendors (specifically for use of loyalty points as form of payment)
- Gift card program vendors
- Card associations
- Merchant processors
- Merchant gateways
- Certified compliance auditing service providers
- Dynamic currency conversion vendors
- Banks, Acquirers
- Device manufacturers (chip & pin devices, wireless, smart cards, etc. Verifone, etc.)
- Other smart card systems – lateral systems such as RFID, keycard companies, etc).
- Related security and technology vendors
- On-line travel and travel-service booking sites
- Payment card regulatory and compliance experts
- Interested industry associations

### **Participation Fees**

HTNG is a self-funded organization, which subsidizes workgroup activities out of membership dues and other funding sources. While these subsidies cover the major support requirements of workgroups, a nominal fee is assessed for each HTNG workgroup, to defray expenses associated with face-to-face meetings, primarily for food and beverages. Reduced or waived fees are available in certain cases, and members can earn credits by hosting meetings.

HTNG's workgroup support fee policy is detailed at <http://www.htng.org/workgroups/common/fees.htm>. The annual participation fee for this workgroup will be set initially at \$1000 per calendar year, with the first year prorated and billed at workgroup kickoff. Fees for calendar year 2008 will be billed in November 2007 and due January 1, 2008. In the event of withdrawal from the workgroup, fees paid in advance are refundable on a pro-rata basis for future calendar quarters, provided that notice of withdrawal is received at least 30 days prior to the end of the previous quarter.

The amount of the participation fee may be increased or decreased based on actual meeting costs after the first year.

### **Sponsorship Opportunities**

HTNG will provide a limited number of sponsorship opportunities for this workgroup. Sponsorships help raise the funding necessary to provide more resources to the workgroup for external facilitation and technical resources. As a not-for-profit organization, HTNG has limited funding to support workgroups. Workgroups that operate only on the support of membership dues and participation fees can be successful, but take longer and require more investment of participants' time.

Sponsors invest amounts typically in the range of \$5,000 to \$10,000 over a defined period of time. In return, they receive permanent recognition on documents, specifications, standards, presentations, and other materials produced by the workgroup. Sponsorship funding helps to ensure better and more focused use of the time of key technical staff committed by all participating companies. As such, it can be a good investment for companies who plan to commit the active involvement of senior technical staff.

For more information on sponsorships please contact Douglas Rice at [douglas.rice@htng.org](mailto:douglas.rice@htng.org) or +1.847.303.5560 ext. 201.