

TOGETHER

Getting it

Technology Trends in the Hospitality Industry

If there's one theme that runs through most technology trends today, it seems to be complexity. The never-ending stream of new marketing ideas, the rapid shifts in consumer trends and desires, the overwhelming volume of data we need to analyze—all of these need to be combined in ever-changing ways and now also made accessible from mobile devices. Sometimes it seems that all technology does is complicate our lives further every day.

Looking back over past trend reviews, these factors and many of the directions being taken to deal with them have been apparent for some time. These include the growing connectivity of systems to share and consolidate data, the emergence of new tools to analyze and use that data, the personalization of guestroom technology,

*Looking Back:
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increasingly mobile access to information, and so on.

What's changed has been the huge explosion of available data, on the Internet for consumers and in ever-growing operations and customer profile databases for

businesses. Combine this with the growing assumption that everyone should be able to access anything they want at any time from their cell phones, filtered and presented in just the way they want to see it, and it often seems like an impossible task to manage.

The good news, though, is that the technology advances that cause the challenges also give us the means to regain control, to filter out what's meaningful and respond to it flexibly

and appropriately over the right channels. We certainly live in interesting times.

System and Data Convergence

It's been a long time coming, but many more hotels now understand the need to plan for the technology needs of their operations as a complete entity. It's becoming ever clearer that automating individual departments with single-purpose point solutions just shifts bottlenecks from one place to another. An overall strategy and framework to cover the whole operation are essential.

When times are tough the one major differentiator between hotels in guests' minds is service, and clearly, the more complete and accurate information hotels have on guests' needs, the better they're able to anticipate and satisfy them. Knowing guests' spending and activity habits on property allows for better pre-arrival contacts to assure them that their preferences are being looked after. Knowing their booking habits permits personally tailored offers to be sent on the right channels and at the right times when they're most receptive to make a reservation. But the key is accumulating complete and accurate profiles from all the multiple systems involved.

Similarly, when hotels are looking to save every cent they can and run as efficiently as possible, it's equally essential to have complete and accurate operational information to work with. Flexible analysis of trustworthy data is the only realistic way to find and correct exceptions, and to make well-informed decisions on how to improve business processes.

In both cases, consolidating data from many different systems and departments into

an accurate, meaningful whole continues to be a critical success factor. Fortunately, system vendors continue to expand their systems coverage and interface abilities to suit, and to provide flexible analysis tools. Several PMS vendors (e.g., MICROS, NORTHWIND, RSI, SoftBrands) now offer their own business intelligence analysis modules, and third-party vendors such as Aptech, Datavision and ProfitSword continue to help provide insights into an ever wider array of data sources. On the CRM side, a whole legion of vendors such as Cendyn, Digital Alchemy, Libra OnDemand, ZDirect and many more provide increasingly flexible ways to market to guests.

All Together Now

No department operates in isolation. Group and transient guest bookings impact each other, but they also impact the workload in housekeeping, the food and beverage outlets, engineering and accounting. The more integrated the systems everyone uses, the greater awareness they have of the operation as a whole and the more effectively they can plan and work together.

This has been true for a long time, of course, but many properties avoided dealing with it because it was too difficult to get their systems to work well together. However, the trend toward more integrated system sets is stronger than ever. Individual systems continue to offer ever-wider coverage and OTA- and HTNG-inspired interfaces provide much more power and flexibility in linking different applications. Consequently, more complete solutions are readily available and increasingly effective.

MICROS, for example, has now incorporated previously separate business intelligence and revenue management modules into its OPERA suite.

NORTHWIND's Maestro has added integrated e-marketing campaign functions and expanded its online self-service dynamic packaging and condo owner access. IQWare has added central reservations and time-share modules, as well as channel management functions and services. ResortSuite has added more online activities booking, including booking through Passkey, and PAR Springer-Miller has expended its SMS|World online booking module and extended its two-way links with distribution channels.

Agilysys is cross-pollinating its various systems to the improvement of all, adding Visual One's spa and golf packages to the LMS product and integrating InfoGenesis and Eatec into Visual One. Its new Guest 360 PMS, currently in beta test, was also designed from scratch as an integrated solution for many different types of properties. SoftBrands continues to expand the functionality of its Epiteome and Core products, and recently added IntelliSpa to the range of partners' systems it offers under its Emerald brand to round out its overall range.

Since no individual system does everything a property needs, it's encouraging to see how much cooperation has grown between vendors to offer various combinations of their systems as a more unified whole. Some specialists such as Newmarket have cultivated specific vendor relationships for some time, of course, but the work done by OTA and especially HTNG in supporting cross-system integration continues to grow in influence.

The most visible product to date is HTNG's Single Guest Itinerary (SGI), which has been adopted by many vendors; SpaSoft, TAC, Open Course, IntelliSpa, NxTV, PAR Springer-Miller and ResortSuite all have certified SGI interfaces. These link spa, golf and other activity bookings seamlessly to a PMS room reservation, include them in the confirmation and display them on the guestroom TV. Another example is the certification by Trust, IDeaS and EzRMS of their HTNG Property Distribution interfaces, which streamline the interaction between revenue management and central reservation systems.

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One of the key aspects of memorable guest service is a prompt, appropriate response to guest requests and problems, an ever-growing challenge as guests' expectations continue to rise. Accordingly, the vendors of guest-response management systems (such as GuestWare, Metromedia's HotelEXPERT, MTech's HotSOS and Knowcross' Triton) continue to expand their links to other systems. Some, for example, link to reservations to provide the front office staff with a view of the guest's previous history. Others automatically generate a work order to the staff on the day of arrival to check that a specific problem the guest experienced on his last visit won't happen on this one.

This type of flexible, powerful interaction between systems is certain to grow as it provides hoteliers with much more flexibility in choosing vendors and products for the best fit with their operation. However, it's equally as important for hoteliers to ensure proper training for their staff to use the systems consistently across all departments; no system can compensate for users entering different codes for the same thing in different departments.

Some chains are taking this consolidation to its logical extent by defining a complete set of systems and services from various vendors as a single package, delivered and supported by one company. InterContinental Hotels, for example, has put together its Hotel In A Box approach to technology for its new-build limited-service brands. This combines a PMS, PBX, guest Internet access, electronic door locks and video surveillance in one integrated package, all installed and supported by IBM. Though not without challenges in extending it to retrofits and to full-service flags, the appeal of this approach is obvious in simplifying the acquisition and management of a complete technology package.

How Much is That, Again?

One particularly complex area is revenue management, especially as the number of available distribution channels has grown exponentially. The difficulty of calculating the most competitive rates has also increased through the growing need to track and allow for many other factors (F&B, spa, golf, etc.) that affect the overall worth of each booking.

As a result, more multivendor partnerships are coming together to provide a more comprehensive view. Revenue management systems such as IDeaS, Amadeus, EzRMS and Rainmaker link with many property management systems to balance transient and group business and take into account a wider range of ancillary revenue factors. They also link with comparative data systems such as TravelCLICK and RateTiger to check on comparative peer group rates, and with specialized channel management

systems such as RateTiger and EZyield to manage rate and availability distribution as smoothly as possible. Channel distribution management tools built into property management systems have become more common, too. Rainmaker recently took this one level further by tracking the impact of e-marketing campaigns, thereby adding the ability to recommend specific types of campaigns to fill possible gaps in future bookings as well as the more traditional use-of-rate and length-of-stay adjustments.

Especially in challenging times, setting the most competitive rate is more critical than ever. This kind of complex multisystem data evaluation and management will become increasingly important and prevalent.

Picture This

With the increase in processing power and display capabilities of almost every computing device, the visual presentation of data and consumers' ability to interact with it are expected to take off dramatically. Good visual displays really help highlight the exceptional conditions reported

by business intelligence systems, and their flexibility and drill-down capability improve all the time. Marketing sites, too, must use ever more imaginative visuals to stand out from the crowd and be found easily as it becomes apparent how important good images and video footage are to selling rooms.

So far few others have followed Hilton's lead in letting travelers pick a specific room from online floor plans of its Homewood Suites properties, but this is surely only a matter of time. Some chains already use Google Earth on their booking sites, allowing travelers to zoom in on a property for a vivid impression of its location and style before booking. The

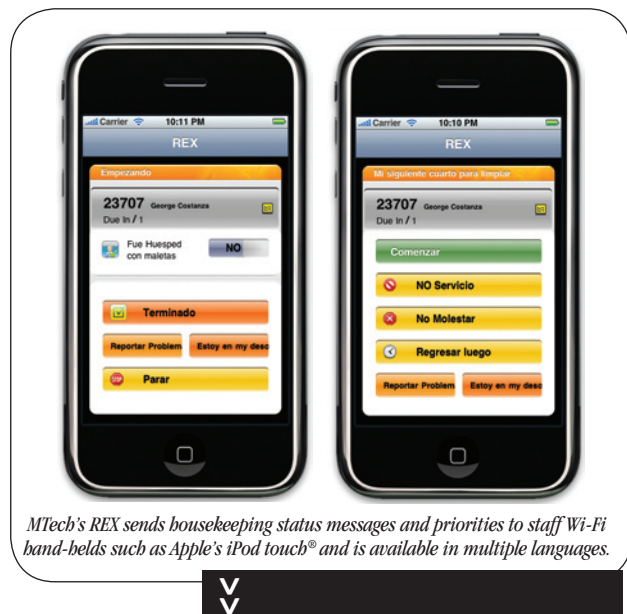
next step of picking the room and its view seems inevitable, as does the extension of this to function spaces to let event planners pick their preferred meeting rooms visually.

Guestroom Technology

Interestingly, the focus here has shifted somewhat from which specific technology items should be provided to ensuring a more powerful and flexible infrastructure for whatever the guest chooses to bring and use there. Flat-panel TVs are a given everywhere—it's almost startling to see a CRT-based TV now—along with jack panels to plug in guests' music, video and game players, and high-definition programming is slowly becoming more prevalent.

The most critical factor has been providing sufficient bandwidth, both wired and wireless, to handle whatever guests want to download to their rooms without compromising the quality offered to other guests, all at an affordable cost. Even the major chains acknowledge guests' increasing preference to use the Internet to access what they want, when they want it, and are dropping the requirement to have on-property video on-demand services. Streaming video, on-demand movies, online gaming, personal video-conference links, Slingbox™ access to home TV programming and so on all make major demands on bandwidth, and if anything, this will only increase. Consequently, it's impossible to continue to offer free Internet access to all users and still provide any consistently usable quality. (See Bandwidth article, page 44)

As a result, the growth of tiered-pricing access seems inevitable, with free access at the lowest bandwidth level and various priced options above that. Communications vendor flexibility in providing bandwidth on demand (and billing only for actual usage) is increasingly desirable, and Quality of Service management becomes critical once the network is used for voice calls. Data messages can be instantly re-sent if an error is detected, but interruptions to speech are immediately noticed as poor quality.



MTech's REX sends housekeeping status messages and priorities to staff Wi-Fi hand-helds such as Apple's iPod touch® and is available in multiple languages.



One growing approach to simplifying network cost and management is the use of converged networks, both wired and wireless. These use a single cable, usually fiber backbones with Cat 6 in-room wiring, to carry all communications for guestrooms (including Internet access, IP TV signals, phones, energy management, door locks, etc.) as well as for staff systems. A single wireless network can also be used for both guests and administration. Appropriate access security control is essential, of course.

Marriott's Clear Sky initiative is one example; it integrates all property communications—guest and administrative—into a single converged network supplied and maintained by AT&T. This greatly simplifies implementation and access for all while maintaining flexibility in access security and in allocating bandwidth as needed, and the approach is predicted to become much more widespread.

However, the quality control challenge will also increase as hotels use the converged network for more administrative work. In addition to the guestroom systems just mentioned, as wireless coverage is extended throughout the hotel for guest use, new staff applications will take advantage of it and add to the traffic. MTech's REX, for example, now uses it to send housekeeping status messages and priorities to staff Wi-Fi hand-helds such as Apple's iPod touch®. Staff use of cordless Wi-Fi phones for general communications may have better internal signal coverage, and so be more reliable than over cell phones, and will add a further load which must be given priority for quality reasons. The use of dynamic network load-balancing equipment such as Elfiq, Radware and Fatpipe can only grow to help manage this and to spread demand over all available channels.

Voice over IP (VoIP) phones still haven't yet made many inroads into guestrooms, but are expected to become the mainstream choice over time as focus shifts from trying to make them as functional (and expensive) as small PCs. The debate over how many video screens are needed in a guestroom is being resolved in favor of two, the TV and the guest's cell phone, as more sophisticated integration emerges between video services, TV set-top boxes, phones and property-based systems.

Interaction with the guest for room temperature and lighting controls, for accessing information on her group's conference agenda and function room location, for ordering room service, housekeeping and other hotel services will primarily be handled via the TV screen or, secondarily, her cell phone. The guestroom phone itself will then revert to being a simple, inexpensive device for contacting hotel staff.

Speaking of Phones

One inescapable trend has been the major shift toward personal smartphones as the dominant communications device for virtually all travelers, not just for phone calls but for access to every kind of data look-

Notes

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New Opportunities in New Orleans

Having survived Hurricane Katrina and now working through the recession, the Hotel Monteleone in New Orleans might be forgiven for hunkering down for a while. On the contrary, the hotel is actively upgrading its complete infrastructure to make sure it takes advantage of new opportunities as they arise.

"Two areas we've focused on have been server virtualization and propertywide wireless Internet access," said Terry Mongrain, the hotel's director of IT. "We've successfully moved several non-critical systems and admin functions to virtual servers, such as the Janus digital display system, printer and domain servers and other general management applications.

"This has been very positive for us, increasing reliability, reducing support effort and cutting down on the physical equipment, power and air conditioning in the computer room. We're convinced of its merits, and look forward to extending it to our core systems as soon as we're able."

Classic properties such as the Monteleone often have difficulty ensuring full wireless coverage throughout the building. How has this fared? "We've had excellent results with the Ruckus equipment," said Mongrain. "We installed wired access points wherever we could, and were able to use Ruckus' mesh network approach to add others linked wirelessly to them in the more obscure corners. It's given us complete coverage.

"We actually installed two separate networks, one for guest access (which we were able to segment between guestroom and meeting room use) and one for administrative use. The latter has a VLAN link across to the guest network—but not the other way—so that managers can be connected throughout the property. To insure wireless integrity, the Ruckus equipment is only installed on the guest network.

"It's early days yet, but we're now in a position to replace our managers' cell phones and two-way radios with IP phones usable everywhere. The new network infrastructure also lets us look at adding IP guestroom phones, networked security cameras and even IP TV," Mongrain said, "It's an investment that gives us great flexibility."

up and interaction with people and companies imaginable. It's truly remarkable how panicked we feel if we suddenly realize we don't have our phones with us. Total reliance on the phone is still strongest among the younger generations, but its usefulness is recognized by all types and ages of travelers. Consequently, hotels and systems vendors alike are adapting many aspects of their operations to incorporate phone access. (See Cell Phone Marketing article, page 38)

Marketing and reservations now almost universally allow travelers to use their phones for hotel research and booking, to receive CRM messages and stay reminders, and soon for checkin and (more slowly) electronic payment. With text messages becoming the universal shorthand, they're now being used to alert early arriving guests when their rooms are ready (and for many other guest service and marketing purposes), as well as to send priority requests to housekeepers and engineers. NORTHWIND's Maestro and MICROS' OPERA both offer this from within the PMS, and Knowcross' SkiGee management system is built around text's ever-spreading presence.

Guest phone tie-ins with property systems are already here. The Malibu Beach Inn uses runrutz to offer guestroom controls and guest service request functions for loading on a guest's iPhone, and DOCOMO Intertouch has shown a similar prototype. Several hotels also offer podcast guides to local attractions for download to guests' phones. Expect to see more and more informational and travel functions linking phones with management and marketing systems.

In particular, phones have become almost extensions of people's minds as they seemingly text about everything they experience the instant it happens. Consequently, marketing and management are having to pay increasing attention to Twitter, Facebook and other social networks. Comments and critiques of hotels and stay experiences appear almost in real time, and must be responded to equally rapidly if a hotel is to maintain its reputation for caring about its guests. Word of mouth has never moved faster. (See Twitter article, page 34)

Going Green

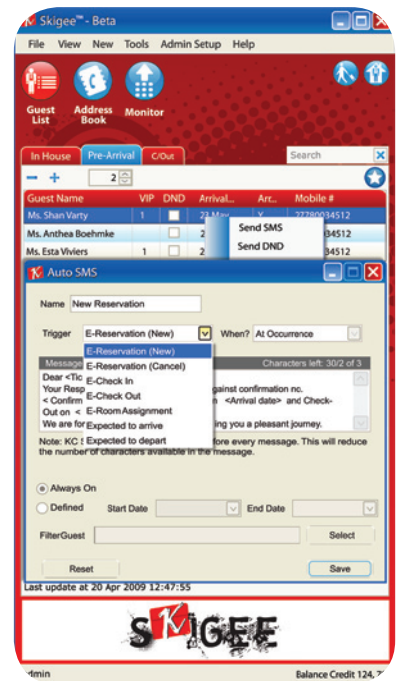
There's no question that ecological awareness, conservation and energy management have become mainstream concerns. Adoption of technology to manage these continues to be slow in the hospitality industry, however, except in new-build properties where high-efficiency materials and controls are easier to build in. Partly this is because much can be achieved through changes in buying habits, waste control and the adoption of a green mindset to the general operation, and partly because retrofits can be expensive.

Nevertheless, the energy savings from controlling guestroom thermostat setbacks with occupancy sensors and links to PMSs are well documented, and newer wireless controls (often Zigbee-based) are simpler and quicker to install in guestrooms than before to take advantage of them. An ecologically sound approach to buildings and building management will become the norm rather than the exception, and increasingly integrated property technology is already providing the means to control it.

In the computer room, increasing use of virtual server technology will allow more and more applications to be run on fewer physical servers, leading to significant savings in space, power and air conditioning needs. (See Virtualization article, page 150)

Going Central

More and more properties are acknowledging the benefits of moving their systems outside the property completely, whether for better support, security and ease of updating for their own systems or for the convenience of using Software-as-a-Service (SaaS) applications for a monthly fee.



Configuration screen for an SMS text message to be sent automatically to each person booking a new reservation from a hotel's Web site.

Courtesy of Knowcross



CONSULTANTS CHIME IN

John Burns

Hospitality Technology Consulting

- Much greater use of opaque online travel agencies (OTA) as hotels fight to maintain public rate integrity while still filling their properties.
- Less-viable hotels may explore various mixed-use or even repurposing options such as tie-ins with colleges and universities for residential courses or with medical facilities for convalescent centers. It'll be challenging for them to adapt their systems to these new uses.
- Pressure to reduce IT department budget and staff while keeping satisfactory support to properties and continuing important R&D activities.
- Guestroom technology will remain a constant challenge in:
 - satisfying guest expectations of in-room connectivity for their personal devices
 - successfully providing HD television programming
 - ensuring the technology is useable and doesn't overwhelm the guest
 - funding/delivering adequate Internet connectivity.

Jules Sieburgh

O'Neal Consultants

- Mobile technology will keep growing, with easier searches, bookings for all activities and many other apps including payment and access controls.
- The bigger chains may well drop their custom software applications in favor of third-party products, except for central reservations.

• Guestroom technologies will continue to challenge hotels to keep up with what guests are used to while considering the many generation types guests cover.

• Green solutions will be a growth area for technology as well.

• Tighter auditing of technology spending and revenues. There are substantial opportunities in areas such as telephony, audio visual, utilities and in-house spas.

Mark Haley

The Prism Partnership, LLC

- Green is for real; all businesses must balance profitability, environmental sustainability and societal contributions. Expect more Web-based applications, server virtualization and better power management of desktop devices.
- Mobile usage keeps going up, and will lead to self-service checkin/checkout and guestroom access as well as more admin use: room status updates, service requests, etc. To be effective mobile versions of Web sites must be tuned to the individual device types.
- Increasing regulation and its associated costs of compliance.
- Guests looking for experiences, not just rooms, leading to online booking of family reunions, multifamily vacations, learning vacations, social contribution travel, etc.

Bonnie Buckhiester

Buckhiester Management Limited

- Hotels are being more savvy and moving to mix management, not price, to optimize demand and improve market share. The technol-

ogy challenge is that so many don't have proper (or any) integration between their PMSs and sales/catering systems. This results in a great deal of extra labor in balancing inventories, and accurate group block management leaves a lot to be desired.

• Lack of integration is still a major problem as it relates to revenue management and optimizing demand for both the transient and group lines.

Darrin Pinkham

DP & Associates Hospitality Technology Consulting, LLC

- More converged networks with wired/wireless high-speed Internet offered at guaranteed bandwidth in many speed options and compatible with corporate networks.
- Green technology, virtual servers, more SaaS model/cloud computing applications to reduce hardware at the property, more energy management systems.
- In the future, much wider selection of guestroom video and content options on unlimited per day/per stay basis, not pay per single use, large 36-inch and larger LCD flat-panel TVs with touch-screen and keyboard control, on-screen control of HVAC, lighting, wake-up calls, room service and retail ordering.
- Smarter applications that help provide better guest service, e.g., prioritized housekeeping rooms control/rotation, fully involved social networking, expanded guest profile and CRM capabilities.

Obstacles

- Slow replacement of old analog phone systems with VoIP solutions.

• Creating effective wired, wireless and cell phone infrastructure and coverage in older buildings for both hotel staff and guest communications.

Jeremy Rock

Rock-IT Group

- Moves to virtual server and blade server technology—cost effective and lower energy.
- More hosted (SaaS) applications—lower CapEx requirements, less on-site hardware, better support.
- Greater broadband requirements and bandwidth management—guest and group demand continues to grow dramatically.
- In-room video challenges—guests expecting costly HD content but pay-per-view revenue is declining, implying tiered pricing for HD quality video as well as Internet access.
- Electronic marketing and social media—continued growth in both.
- Increased use of mobile smart phone technology—direct booking, door access, local concierge-type information.
- In-building cell phone amplification—essential for property-wide coverage, especially for meeting rooms and admin spaces.



Moving Forward with **MTM**

When you position yourself as a technology-focused operation as much as MTM Luxury Lodging did with its Hotel 1000 in Seattle, the pressure is always on to raise the bar with each new property. So what has MTM been looking at lately?

“Our new Bardessono property in Napa Valley has more of an environmental focus,” said Chuck Marratt, VP of information technology, “but it has its own technology features too.”

These include adding control of the guestroom solar shades and fireplace to the Inncom room control units, in addition to MTM’s usual linking of the thermostats to the PAR Springer-Miller PMS. “We’re also looking at ways to move more of the guest’s room controls—lights, thermostat, etc.—on to the TV via the remote control, in such a way that the displays overlay the picture and so allow for uninterrupted viewing.

“We took our use of IP telephony a step further there by outsourcing the complete phone operation offsite. The switch (a Cisco Unified Communications Manager), dial-tone and voice mail are all managed in Woodinville, Wash., over an MPLS circuit. Guestrooms have both an analog and an IP phone, a main Cisco 7975 color touch-screen IP unit and an analog DECT cordless phone the guest can use anywhere from the bathroom to the outside patio. Emergency 911 calls from the guestroom are detected by a Syn-Apps unit on the hotel network, which automatically alerts the front desk as to which room needs help.”

Hotel 1000 has received tremendous exposure as a technology-focused property. How does MTM keep it up to date? “It’s a constant process to make sure guests’ expectations of a great experience are met,” said Marratt. “We’re currently replacing all the guestroom TVs with HD units and a Microsoft Surface unit in our lobby lounge has been a big hit.

“Elsewhere we continue to look for ways to incorporate new technology where it helps the operation; it’s good to have a wow-factor, but it must also be useful. For example, we’ve put a couple of Hewlett Packard Touchsmart PCs in the business center at our Woodmark property, running Windows 7, to see how the multitouch user interface works out in practice. We’re also fortunate to be working on a new property, the Bellevue Park in Bellevue, Wash., that will give us the chance to extend and improve on the converged networks we now implement as a standard.

“We’re keeping a close eye on developments in consumer social networking, while also looking at services like Yammer, which will let us set up our own Twitter-like admin network internally, within MTM. And with text messaging becoming so widely adopted we’re looking at ways to tie that in to our property systems to send alerts to guests to help them before and during their stay. The search goes on!”

Web-based PMSs such as innRoad and Novexsys are growing steadily in functionality and popularity, offering low-cost entry and simple implementation. Most other PMSs are also available in a remotely hosted form, either direct from the vendor or for hotels to install at their corporate offices or at a third-party collocation facility. Canada's RSI is committed to the remote-hosting philosophy; its RoomKey

Independent properties are also taking advantage of remotely hosted PMSs for their greater security and support.

PMS is available only in this format, and is currently used by nearly 300 properties.

While offering major benefits to multiproperty groups from the ease of comparative reporting and analysis of consistent data from all sites, independent properties are also taking advantage of remotely hosted PMSs for their greater security and support—and the ability to start using them without CapEx outlays.

It's not just PMSs, either. Financial systems such as Aptech and M3 have long been offered this way, as have revenue management systems, and Salesforce.com has become almost the de facto choice for sales force management.

Early adopters of IP telephony are also seeing savings from outsourcing this off-property, too. This off-site trend is expected to continue to grow strongly wherever affordable, reliable communications links make it feasible, especially in North America and Europe.

Security

One unfortunate trend that shows no signs of slowing down is the increasing demand for data and system security. It's always been time-consuming to have to update security patches and anti-virus/anti-spam software, on workstations and servers alike. Sarbanes-Oxley increased the need for tighter control of the data and access to it, and the credit card companies' PCI requirements have added a further layer of time-consuming system updates and operational audits.

Many smaller properties have ignored all of these for a long time, figuring that the odds of their data being attacked are too remote to worry about. However, leaving aside the potential unwitting use of their servers as hosts for remotely controlled spam or other attacks on third parties, their financial consequences for suffering a data breach have become very significant—and they may not even learn about it until long after it actually happened.

Compliance with PCI and other security requirements has now become a necessary cost, and, because new threats are always being tested

and the standards updated to counter them, it's also an ongoing one.

It's Showtime!

Hospitality has often been characterized as entertainment, providing a relaxing and enjoyable environment where a whole cast of people works together to welcome, care for and entertain visitors, within the guidelines of a script to present a brand- or hotel-specific image and theme.

As the world becomes ever more complex, it's encouraging to see good progress in ensuring that the cast of different systems involved in hospitality likewise work together to a common script. It's the only way to ensure consistency in the ever-expanding volume of data they generate, to permit more informed and timely business and marketing decisions and to support higher standards of guest service.

With the apparently insatiable demand for personalized access to that data wherever a mobile traveler happens to be, it's never been more important for vendors and hotels alike to get their acts together and get it on the road.

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