

by Jon Inge

# The Way Ahead



## A look at hospitality technology from the people who build it

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One of the most stimulating conferences of the year is *Hospitality Upgrade's* Executive Vendor Summit, where the CEOs of the vendor companies gather for networking, discussion of common challenges and to share their thoughts on future technology. This gathering of the minds that drive systems development provokes some fascinating discussions on the state of technology and what directions seem to hold the most promise going forward. What better opportunity to tap their combined expertise?

Where do they see technology developing over the next five and 10 years? What new technologies not yet in commercial use intrigue them and might find their way into future products? How do they approach integration with each other's products? How much do they spend on R&D? And just to stir things up, what frustrates them most about their customers?

### Survey

We surveyed all attendees after the event, and received responses from 37. They were very generous with their time and input, providing far too much material for us to be able to report on all their comments. For this article, I've extracted the main points and a selection of quotations, added some thoughts of my own for context—and learned a lot about the challenges of phrasing survey questions clearly.

Among the vendor CEOs who responded, the average number of years in hospitality technology was 15, with a surprising range from 1.5 to 43. Their backgrounds included a refreshing mix of software development, hotel operations, networking, business analysis and development and hardware sales. The companies they represent cover the whole industry: property management systems, sales and catering, point of sale, business intelligence, CRM, Web-based marketing, guestroom technology, revenue management and much, much more. This diversity led to some interesting responses, but there was also a surprising degree of consensus on some key issues.

### How do you see hotel technology changing over the next five years? What about the next 10 years?

A clear consensus settled on greater integration (22 percent) and more centrally hosted systems (19 percent), closely followed by greater personalization and greater emphasis on mobile communications (14 percent each).

"With the growth and stabilization of networks, there are increasingly diminishing arguments for operating on-premise servers and software. I see the emergence of application service provider (ASP) and software as a service (SaaS) business arrangements. The interesting question is who will be the ASP? The management company? The brand? The software vendor?" **Ron Tarro, SDD**

"Increase of strategic partnerships in offering fully integrated, best-of-breed management/technology solutions to hotels."

**Bob Magliozzi, CENDYN**

"Systems will become more networked. Large companies will depend more on centralized systems; companies with little requirement for application customization will increasingly adopt a software as a service means of sourcing systems as the prevalence, performance and reliability of Internet connections increases."

**Steve VanTassel, SoftBrands**

"The next five years will see the hotel industry finally embracing ASP, Web-based environments for operations solutions and viewing technology from a services point of view versus an applications point of view. PM modules will slowly shift from the property to central management and marketing will emerge as the leader of the wave. In 10 years, cell phones will be our credit cards, keys, PDAs, laptop and central source of communications." **Rick Munson, MSI**

"... We'll see typical property-based servers reduced to a single headless box, becoming more like an appliance. This appliance will act as an interface controller, a gateway to application service providers, a network accelerator and a backup device allowing the property to ride through an occasional network outage." **Bob Post, TravelCLICK**

How do you see hotel technology changing over the next 5-10 years?	*Percent responded
More integration	43%
Centralized systems, SaaS	38%
Greater personalization	27%
Mobile tech	27%
More bandwidth, IP convergence	16%
Self service	16%
Faster, better reporting	8%
Green tech, more EMS	5%
VoIP	5%
Security, privacy issues	5%
RFID	3%
Too few staff	3%

\*Each percentage answer is out of the 37 respondents surveyed. More than one answer per question was allowed.

A growing emphasis on self service was next, along with the need for and availability of increased network bandwidth as systems converge more and more to an IP-based platform.

**What systems approach/ technologies will benefit the small, independent or limited-service hotels?**

No surprises here; the strong opinion (54 percent) is that systems supplied on a remotely hosted, monthly service basis offer significant advantages in flexibility and freedom from support worries for the smaller properties. They also now have excellent functionality, fully enabling the smaller properties to compete cost effectively with their larger brethren. Better integration, the number two suggestion at 28 percent, is also not surprising given that smaller properties need as few interface distractions as possible. "Capability without the barriers," said Ron Tarro, SDD.

Three people picked up on an important point, namely the need for better user interfaces to make the systems

"Sophisticated systems with Macintosh-like ease of use at the property level. Affordable, ASP-based to minimize IT support needs at the property level and still offer best practices solutions to the smaller properties."

**Jay Troutman, Aptech**

"Certainly the deployment of full-suite ASP solutions that require no significant hardware footprint on the property. A one-stop shop for PMS, RMS, etc."

**Greg Pesik, Passkey**

"Adoption ... of ASP-based systems with subscription pricing models. IP-based systems ... are more cost effective [and] allow smaller hotels to embrace the same technology as the larger hotels."

**Ted Horner, E Horner & Associates Pty Ltd**

"The ability to leverage software as a service-based model will allow small organizations to embrace shared infrastructure and to benefit from the types of professional management and system architecture that have historically been financially out of reach."

**Sean O'Neill, Newmarket International**

"Today, some of the more creative marketing and distribution efforts come from smaller sized chains that are able to compete on a scale that was not even contemplated five years ago. Continued growth of reliable, highly functional SaaS products will enable smaller independent and limited-service hotels to acquire sophisticated technology at a more affordable cost." **Bob Post, TravelCLICK**

"The Internet and ASP software applications delivered over the Internet are leveling the playing field and will continue to do so in the future." **Glenn Convey, Metamend**

more intuitive to use and easier to learn. This would benefit everyone, of course, but smaller properties in particular have little time to spare for training their multitasking staff.

**What will be of more benefit to the larger properties and chains?**

There was more consensus here than on any other topic, with general agreement that the more completely integrated and centrally managed the systems, the more consistent the guest experience across the chain and the more effective CRM efforts will be. Reporting will be more accurate, complete and useful, and support of both management actions (revenue management, CRM) and the systems themselves (simpler updates, security, interfacing, etc.) will be greatly enhanced.

"This segment of hotels will most benefit from systems that identify, track and retain a customer touchpoint that will distinguish a particular hotel experience as unique and memorable," said David Giannini, Swisscom.

"The real value is in the ability to provide integrated business policy and its

supporting information across brands and groups without managing many independent data and technology environments,” said Ron Tarro, SDD.

“Systems that consolidate/centralize data, identify critical data based on specific/customizable business rules and automate the actioning of the data,” said Bob Magliozzi, CENDYN.

“Business intelligence and standards enforcement for chains. Larger properties and chains have been amassing data for years. The next big push will be to at long last convert it to usable knowledge that is pushed to users at the right time,” said Luis Segredo, MTech.

**Will all networks be wireless, assuming better security? Why or why not?**

There was equal support here for pro and con, with responses varying from an emphatic “yes!” to an equally dogmatic “not a chance!” The general view was that while user access will continue to move rapidly toward wireless networks for its convenience and flexibility, the underlying backbones, especially cross-country and internationally, will likely continue to be wired, for security and reliability.

**How do you plan to incorporate guests’ cell phones or PDAs into your product’s functionality?**

By far the most popular approaches were for sending alerts and messages (18 percent), and to provide mobile Web access for booking (13 percent), all of which are already available from some vendors. Trailing these were plans to use the phone for check in, check out and to replace the room key, to send reports to managers, and as a general payment device. Only one person suggested that it would replace the guestroom phone.

How will you use guests’ cell phones/PDAs?	*Percent responded
Alerts, messages	49%
Access to info, booking	35%
Check in, room key, check out	22%
Management reports	16%
Payment	14%
Replace room phone	3%

\*Each percentage answer is out of the 37 respondents surveyed. More than one answer per question was allowed.

**Cell phones & PDAs**

“We offer dashboards and alerts to wireless PDAs right now, [but] with only limited usage.” **Jay Troutman, Aptech**

“We’ve been doing this for years now. We interface with PDAs and cell phones, but with SMS messages with a recap of the night audit figures, or full display of hotel data through PDAs.” **Robert Paresi, InnQuest**

“Cell phones will open guestroom door locks. PDAs will be used to alert hotel staff as to pending service orders generated by guests or pieces of equipment that require attention.” **John Tavares, Inncom**

“The same way we have incorporated the 30-plus other remote and on-property systems into our PM system...communications on all sides...the cell phone will become the glue for our CRS, guest loyalty, credit card, key lock, in-room safe and all other critical interfaces.” **Rick Munson, MSI**

“Cell phones and PDAs are increasingly adept at consuming Internet content, with larger screens and 3G. As a native Internet application, publishing application content for mobile technologies is as simple as hosting optimized formats on our Web servers. That is, it’s built in.” **Murat Ozsü, innRoad**

**How pervasive will RFID be? Will it be used for staff tracking, guest location/charging and equipment/receivables tracking?**

The majority thought this was “very likely,” but a substantial minority (40 percent) disagreed. For specific applications opinion was equally divided between inventory control, guest location and staff location, but without strong convictions from most respondents.

**What new technology intrigues you? Can you see a way to implement this technology in hospitality?**

This was intended to see what developments on the far horizons of science had caught the eye of the CEOs, whether or not they could see a practical use for it just yet.

Predictably, responses were all over the map, though the majority stuck to the current or near future and picked mobile technologies, “anything that provides for increased personalization of experiences” and RFID.

There was support for anything Web 2.0 and beyond, as well as for service-oriented

**RFID**

“Hospitality will adopt RFID as a communications medium and tracking platform for all processing of inventory-related activity. The only limitation is on guest’s confidentiality...”

**David Giannini, Swisscom**

“As someone who came from the retail industry, RFID has been ‘about to become ubiquitous’ for years. I wouldn’t hazard a guess in hotels.”

**Steve VanTassel, SoftBrands**

“We do not see RFID being used for staff tracking but see great value in tracking mobile assets.” **John Tavares, Inncom**

“I believe RFID, in addition to mobile technologies, will be the next big thing in hotel technology.” **Gregg Hopkins, Karyon**

“It will be hard to ... predict the privacy and guest reaction to this capability. We would consider this as a category to watch but not lead at present.”

**Sean O’Neill, Newmarket International**

“From a staff viewpoint (facilities maintenance, housekeeping), RFID will continue to be used more frequently. RFID is still going through an acceptance curve, but it would be very helpful in tracking assets ranging from employee uniforms to cots.”

**Tina Stehle, Agilysys**

“RFID chips must become significantly cheaper before displacing bar codes for basic functions such as luggage tracking, as well as expanded functions like staff or guest location.”

**Bob Post, TravelCLICK**

“...arguably the biggest game changer for retail since the bar code.”

**Murat Ozsü, innRoad**

architecture (SOA), both techniques for advancing the flexibility and integration of applications. Beyond these, location-based services (i.e., offering marketing or system access driven by the physical location of the user), green energy and biometrics had a couple of supporters each.

Out on the fringe with one vote each were nanotechnology materials, conductive plastics, mash-ups, single-panel guestroom controls, sensors everywhere (where small, very low-powered sensors fixed to anything that needs monitoring communicate with each other in a mesh network to send alerts back to a control point) and speech recognition.

Encouragingly, several respondents reported that they were already working on their particular favorites, though some of the more futuristic topics were acknowledged to be of intellectual interest rather than immediately practical.

<p>"I am especially interested in technologies that enable individuals to personalize information inputs and feedback."  <b>David Giannini, Swisscom</b></p> <p>"The most intriguing new technologies are those that are going to allow us to expand the customer online experience through personalization, behavior mapping and predictive technologies."  <b>Bob Post, TravelCLICK</b></p> <p>"As a self-professed geek, I can't pick my favorite child. But I can't wait for my iPhone to arrive either."  <b>Murat Ozsü, innRoad</b></p>	What new technology intrigues you?	*Percent responded
	Mobile technologies	19%
	Greater personalization	14%
	RFID	14%
	Web-based apps, Web 2.0+	11%
	SOA, virtualization	8%
	Green energy	5%
	Location-based services	5%
	Biometrics	5%
	Nano materials	2%
	Conductive plastics	2%
	Mash-ups	2%
	Single-panel guestroom controls	2%
Sensors everywhere	2%	
Speech recognition	2%	

*\*Each percentage answer is out of the 37 respondents surveyed. More than one answer per question was allowed.*

**What technologies are you looking at for your next developments in terms of expansion/enhancement of current products?**

I won't provide direct quotes in order to preserve vendor confidentiality, but not surprisingly the most common response (31 percent) reported a focus on making their systems more completely Web-based, using .NET and other Web services approaches. There was also much work going into more modern XML-based interfaces (17 percent). Others are working on SOA architecture, open source software tools, more mobile delivery of dynamic content and developing centrally hosted versions of their products.

**What technologies are you looking at for your next developments in terms of R&D for the future?**

There was equal support here for Web-specific development tools and mobile technologies. Often stated was the goal of working more closely with vendors' off-the-shelf tools, such as Microsoft's range (SQL Server, BizTalk) or Cognos' reporting and analysis products, to leverage these new technologies without having to develop equivalent products in-house.

**What percentage of your revenue do you spend on R&D? What is your staff ratio, R&D/sales/support/admin?**

This was a fascinating result, both in the surprisingly high average of a 20 percent spend on R&D and in the range of answers. These varied from 2 percent (for a really large vendor, so this is still a substantial amount of dollars) to 90 percent (for a relatively new, minimally staffed startup company).

As for the staffing ratios, these averaged out to 35 percent R&D, 15 percent sales, 38 percent support and 12 percent admin, which feels about right. Again, there was a wide range of answers: R&D varied from 20 percent to 90 percent, sales from 4 percent to 30 percent, support from 4 percent to 60 percent and admin from 2 percent to 23 percent. I'm not sure what the correlation implies, but the two vendors with the highest percentage of support staff also had the lowest percentage of R&D people. Both have mature product ranges, though.

**What approach do you take to integration with other vendors' products?**

Again, no great surprise here given both the efforts of the HTNG initiative to improve systems integration and the huge number of installed systems reliant on older technology. The answers were evenly divided between following HTNG guidelines and undertaking proprietary development as needed for specific circumstances, with one lone supporter of Microsoft's BizTalk server.

**Do you have formal partnerships with specific preferred vendors to provide a complete system set for your clients, or do you work with any vendor's products the client wishes to use?**

Although modern interface technology makes it much easier to link systems, there are many benefits to working closely with partner vendors who offer complementary products. A closer understanding of each other's architecture and system functionality leads to tighter integration and a more complete feature set than might otherwise be available. In some cases this partnership also extends to sales and support, with each vendor taking a role on behalf of the other.

However, the real world is a diverse place where older systems tend to stay installed for a long time. Consequently, many vendors prefer the flexibility of being able to work with any other system they need to in the client's environment, and see formal partnerships as limiting.

This is reflected in the results, with good support for both approaches. Nevertheless, given that partnerships don't seem to be widely publicized it was surprising to see them preferred by the majority, 60 percent to 40 percent.

**How can we make the system purchasing process less time-consuming and simpler for both hotels and vendors?**

This is a perennially thorny topic. As systems become more complex to meet hoteliers' increasingly wide-ranging demands, it can be very time-consuming to research them in the depth necessary to truly understand their scope and differences. Hotels often try to compensate by issuing detailed and lengthy request for proposal documents to many vendors, which is hard on those who spend many hours completing them but have little chance of winning the order.

Conversely, vendors have an understandable desire to show as much of their products as possible to demonstrate their superiority, often straying into areas that aren't really important to the hotel. A clearer focus on the hotels' essential decision criteria would certainly help both parties.

What frustrates you in your customers' use of your technology?	*Percent responded
Unwilling to train staff to appropriate level	22%
No business advocate for purchase	19%
Only partial use of system	14%
Not taking ownership of the solution	14%
Not staying current (or minus 1) on releases	5%
Lack of partnership approach to solutions	5%
Not taking ownership of standards, procedures	3%
Lack of communication	3%
Make better use of remote tools	3%

*\*Each percentage answer is out of the 37 respondents surveyed. More than one answer per question was allowed.*

The dominant suggestion from the vendors, not surprisingly, was greater education on the part of the hotels. There's a Catch-22 situation here in that many hotels don't really know what's available from modern systems until they start seeing them in vendor presentations. A multistep approach has many benefits; this would include remote, Web-based system overviews from likely vendors to narrow the field and help clarify require-

"Ensure that clients define and understand what they want and have a project leader to direct the process. Vendors will appreciate when clients are serious about purchasing and when they know what they want and why they want it."  
**Jacob Dehan, Northwind-Maestro PMS**

"Education is the key—this can significantly streamline the process."  
**Shane Ettestad, Blue Square Studios**

"Case studies. Clear descriptions of system functionality. Articles that highlight the benefits of using the technology."  
**John Tavares, Inncom**

"More customer success stories, better defined ROI, less sales hype and better solution-oriented selling."  
**Hayes Thomas, ZDirect**

"Hotels need to establish broader, less granular requirements and encourage partnerships in the proposal."  
**Kevin Short, EDS**

"Companies should adopt a standardized RFP process or at least come up with some standard guidelines. It varies dramatically from one-source, no RFP, to over-the-top RFPs without attention to what is available."  
**Mike Benjamin, GuestWare**

ments before issuing detailed RFPs and undertaking multiday onsite presentations.

A third challenge is the convoluted process hotels often endure to gain capital funds from multiple ownership and management companies. Several vendors pointed out that this situation at least should ease as more SaaS systems come to market, since these are funded from operating instead of capital budgets.

**Can you install your application remotely at a client's site, either as a browser-based ASP product or downloaded and configured remotely?**

Demonstrating the true value of having an industry-wide standard, networked-PC platform on which most applications will run, 94 percent of respondents can now install their main products remotely, without the cost and time involved in visiting the site. The two exceptions here both provide guestroom technology that needs to be physically hooked into other systems.

Remote implementation is becoming the norm for interfaces, too. These used to require one technician from each vendor involved to be on site at the same time to make sure it was set up and working properly. Now, the clear trend is for interfaces to be implemented and both ends configured remotely by a technician from one vendor. One-third of respondents reported that all of their interfaces can be installed this way, another third that "most" can be and the remainder that "some" can.

**Do you provide online training for your applications, either regular for a new implementation or on demand for a client's new hires and refresher courses for access as required?**

Training is another perennial issue. Once the system is installed there never seems to be enough time to schedule refresher training for the staff, and with the traditionally high staff turnover knowledge of the system inevitably slips. To address this, over 75 percent of the respondents now offer some form of computer-based training that staff can access as needed. Over two-thirds of these focus on lessons intended for refresher training and for new hires, the remainder offering it as a regular component of the initial implementation.

**What advice do you have for people looking to make a career in hospitality technology?**

The most prevalent—and welcome—response was to focus on the clients' needs. Many vendors suggested gaining hotel experience first to really understand the context and real-world challenges, and then working on ways to use technology to solve them.

Interestingly, the next most common theme was that this is a small industry with a traditionally slow adoption of new technology. Rather than being a drawback, though, this was said to make it easier to make a significant impact on your clients' business, and it can thus be a more rewarding market.

"Focus on your clients' success!"

~Glenn Convey, Metamend

"Have a balanced view of both the business and technology drivers."

~Michelle Miller, Cisco

**What frustrates you in your customers' use of your technology? What would you like hotels to do that they're not?**

Not surprisingly, this generated considerable feedback. Although expressed in different ways, by far the most common theme was hotels' general unwillingness to take ownership of their role in making the system a success. I'm sure hoteliers have their own frustrations with vendors, too, but the uniformity of response here was striking. These are all direct extracts from the survey responses, but we have suppressed the names for obvious reasons.

*"Often a client is so satisfied with their initial results that they stall and do not continue to use more of the application and harvest additional benefits. As little as 20 percent usage can bring such an improvement that they sometimes do not keep going."*

*"Hotels need to treat technology buys as business process enablers and require a business advocate for the purchase."*

*"Our frustration is users who want more and more complicated options (e.g., yield management) but don't want to spend any time or money learning these features through online help and materials. Managers and owners are spending less and less money, getting less qualified staff and expecting them to use more complicated features without investing in training or attending workshops."*

*"Lack of effective user training, particularly for new hires. Not staying current or N-1 on software releases. Not taking ownership of standards and procedures in multiproperty deployments."*

*"Take more ownership of the solution; it's too easy to blame the technology vendor."*

*"The lack of understanding that success with technology is typically much more dependent on people and processes than on the technology itself. The mentality that this new system is going to solve all my problems often leads to poor adoption and lower ROI."*

*"We would like our customers to use technology beyond their current comfort level. Often users play it safe with a moderate level of implementation. Many hoteliers make buying decisions based more on a functional checklist rather than the vendor's overall tangible ability to impact revenue. Hotels would be better served by considering that their real reason for a technology change is to increase their revenue and/or their net profit."*

*"They think the technology is by itself the solution. The truth is, the improved workflow which technology enables is the solution; technology is just the enabler. Clients should make sure they consider the improvements they want to their business processes before they consider how technology will make it happen."*

“The primary challenge is the fragmented decision process and conflicting priorities among the brands, property owners and management companies.” ~**Mike Benjamin, GuestWare**

“Don’t be a technology geek but be a hospitality freak! Know the business!” ~**Patrick van der Wardt, Brilliant Hotel Software**

“Know the business and maintain effective partnerships with the people whose success rides on the effective use of IT. Technology is only a tool, and your success will ultimately be based on theirs.” ~**Steve VanTassel, SoftBrands**

“Join a frequent flyer program and improve your golf game.” ~**Murat Ozsu, innRoad**

### Final Comments

“2008 will be the year of even more options for hoteliers—characterized by smarter use of technology and fiscal insight into doing business in an Internet-dominated market.” ~**Bob Post, TravelCLICK**

“The future will make what we have done thus far look like the work of cavemen, and it will necessarily be accomplished by far fewer of us.” ~**Luis Segredo, MTech**

“Great market.....and it keeps growing. It’s worth fighting for. Onward!” ~**Mark Tapling, InfoGenesis**

I couldn’t have put it any better myself.

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## A Different Perspective

Predicting what kinds of technology will dominate in the next five to 10 years is always an interesting exercise in speculation, especially with the current pace of development. However, while the actual development of new systems and devices continues at an ever-increasing rate, other important factors determine how much of an impact they’ll have in the real world.

Rather than respond to the survey directly, **John Springer-Miller**, president, PAR Springer-Miller Systems, submitted a discussion paper looking at this wider view. He outlined four major factors to consider:

**1** The rate at which companies can think up new concepts and incorporate them into products. This is the least of the challenges; there’s no shortage of good ideas born out of brainstorming around potential benefits to a hotel or its guests.

**2** The rate at which hotels are able to adopt these new ideas. This is a real challenge, and one that’s not going away. New ideas are generally expensive to deploy, both in technology costs and in operational disruption. Chains can only afford to do this for something that will benefit all their properties, and that’s always a major exercise. Independents are often more willing to be early adopters of new ideas as a way to differentiate themselves, but then the next independent property wants something different again to distinguish itself, limiting the rate of acceptance across the industry.

**3** The rate at which hotel staff can absorb new technology. Another real challenge: quite often the benefit of new systems isn’t immediately apparent to the staff who will use them, yet they must use them before the benefit to the whole operation can be realized. Good leadership, clear communications on the benefits and good management in driving adoption will help them reach critical mass, but are all time-consuming.

**4** The rate of guest acceptance. Some new technologies have seemed to be very promising, but have met with guest indifference or rejection. Roaming check-in devices are one example, in-room video check-out another.

Springer-Miller said, “Innovation and new technology will become available at a much faster rate than the hotel industry will be able to absorb them. The industry will pick and choose only a few things to wrestle with, and more often than not because they don’t have a choice.

“While most hotels will adopt a variety of new technologies over the next five to 10 years, I do not anticipate that any single new technology will sweep the industry, other than those (largely invisible) ones forced upon the industry by government regulations and/or financial institutions.”