It's the biggest talking point in the games and gaming industry, but exactly what is server-based/downloadable gaming?

"Hotter than July" the legendary Stevie Wonder once proclaimed and if he had been commenting on the subject of Server-Based Gaming (SBG) in casinos, the great man would have been displaying a sense of vision the clarity of which would have been severely at odds with his own physical sensory deprivation.

To describe SBG as a 'hot topic' is an understatement to end all understatements. 'Hot topics' are every day occurrences, casino operators and suppliers always have some 'hot topic' or other to debate. SBG is bigger than that, 'hotter' than that, if you will. Put simply, when it comes to delivery of compelling gaming product to players, SBG and downloadable gaming (DG) could melt down the slot machine floor as we've come to know it and reconstruct a completely new world.

It has been said a million times, but it bears repeating. The casinos of James Bond movies are stylish, romantic and aspirational, but they occupy a 'niche' in the modern world. In pure commercial terms, as casino gaming gains in acceptability and popularity around the world, there are simply not enough 007's or billionaire playboys to go around. New players must be attracted to fill the increasingly expansive entertainment emporia that are springing up across the globe and these new players will be initially drawn into the gaming environment by low stake, high volume play.

It is no accident that SBG is Internet driven because it is Internet gaming that has changed our world. The online poker explosion has resulted in an unprecedented new lease of life for the live game and spawned dozens of televised tournaments, dedicated magazines and even spin-off movie franchises. It has produced bonafide gaming celebrities such as Phil Hellmuth and the UK's own Dave 'Devilfish' Ulliott. Most importantly of all, it has introduced millions of new players to casino gaming. The majority of these players enter the fray at a modest level, where the vast majority remain. They play often but their stakes are modest. The secret of the success of the poker 'product' is volume, players who play 'little and often'.

Having observed the re-invention of poker via the medium of the Internet, the slot machine sector has had no option but to respond by creating products that meet a new brief and satisfy a new breed. Simple logic tells us that a huge proportion of these new players were born in the 1970's or 1980's, rather than the 1950's or 1960's. They are a video gaming generation and when it comes to entertainment they have the very highest expectations. Younger players have no great pre-conceived ideas of what casino gaming should be but, because of their background, they will enter the casino and be more instinctively drawn to high-tech offerings than they will to the green baize. Technology is their playground.

SBG is the grown-up gaming industry's response to this most daunting of challenges. Today's casino managers understand the financial and operational benefits the new technologies provide, as well as their comparative invisibility to players. They understand that technology's role is to reduce long-term costs and drive revenue growth

by enriching the playing experience. In the world of SBG, slot machines become centrally controlled multi-game terminals offering rich three dimensional graphics, endless player interactivity and networked play and - it is ridiculous to even attempt to argue otherwise - an infinitely more attractive player proposition.

SIMPLE DEFINITIONS

It may seem unnecessary to some, but it makes sense to many to begin by defining in simple language what the terminology surrounding this next generation of gaming actually means and what are the key differences between Server-Based Gaming and Downloadable Games. Aristocrat Technologies's Michael Koch provides a plain speaking summary:

"It is first important to first understand what differentiates next generation video gaming from the current stand-alone machines. The most common form of video gaming machines remain those that contain a sophisticated amount of hardware and software located within the terminal. These terminals also house the Random Number Generator (RNG), responsible for calculating the game outcome according to local gaming legislation. The game software is located on an Eprom chip and if the operator decides to run a different game on the same terminal, this Eprom must be changed, requiring a member of staff to be physically present at the terminal.

With true Server-Based Gaming, all software logic is taken out of the individual gaming machine and placed on a central server and game outcomes are determined centrally. Logically, this decreases the hardware and basic software requirements, permitting third party hardware that can be easily used at the gaming site. As a result, hardware investments are dramatically decreased. The movement of game logic from the terminal to a central site breaks the traditional value chain, opens up competition and could produce better value for operators. If a player wants to play another game, he simply chooses another title from the menu instantaneously and no further download is necessary.

With Downloadable Games, the playing experience remains largely the same except that the software is downloadable from the central server over a communication line into the terminal. The Random Number Generator remains within the individual terminal, but if the player wants to play a different game, this newly selected game has to be downloaded before it can be made available."

Transforming
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'THICK' AND 'THIN'

It is also important to note that from an operating perspective, there are two types of casino client for SBG or DG, the 'thick' client and the 'thin' client. Thick clients operate a system where the game outcome and the majority of the game intelligence reside within the individual terminals on the casino floor.

The RNG and other game specifics are downloaded to each terminal from the central server and the game operates as a fully stand-alone entity. In this case, once this process is completed, permanent connection to the server is not necessary. With thin clients, the opposite is the case. The game intelligence and outcome remain housed within the central server and the individual gaming terminal is an access point to this server, a means of displaying the game functionality and outcome.

All of this means that today's slot machines will become tomorrow's gaming terminals, with a multitude of games stored on servers. It is logical to assume that immediate trends will include improved player choice, greater product visibility and control, lower cost games and a flexible future-proofing due to what would surely need to be open development standards. The best performing content from whatever original source would be quickly identified and then instantly delivered to many more terminals at far greater speed. It sounds so wonderfully simple and, of course, it isn't…

"SBG requires corporate capital investment to prepare the core system," cautions Octavian's Robert Dykstra. "From the supplier's perspective, there is ongoing game development, management software and security to get right. Operators will require specialist IT personnel to manage what will be a more sophisticated system. However, these investments will be offset by reduced downtime and vastly improved monitoring systems. SBG will inevitably change the industry. Operators will be more involved in what is happening on the gaming floor. Game life cycles will be shorter and there will be increased emphasis on development."

Whilst placing product development and, ultimately, product success back into the hands of the people who are arguably closest to the players – the content developers – may seem to be a positive move, there are numerous implications to consider in what is an absolute 'quantum leap' for the industry. As ever, at the head of this list are the two items at the head of every realist's list, legislation and cost. Jeff Allen, Director of Business

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> **"The route to regulatory approval will not change from the one we have today. In an SBG environment the games are 'ported' to the technology. This process encompasses sophisticated testing and quality certification. The game once ported will be presented to the regulators as part of the SBG suite."**
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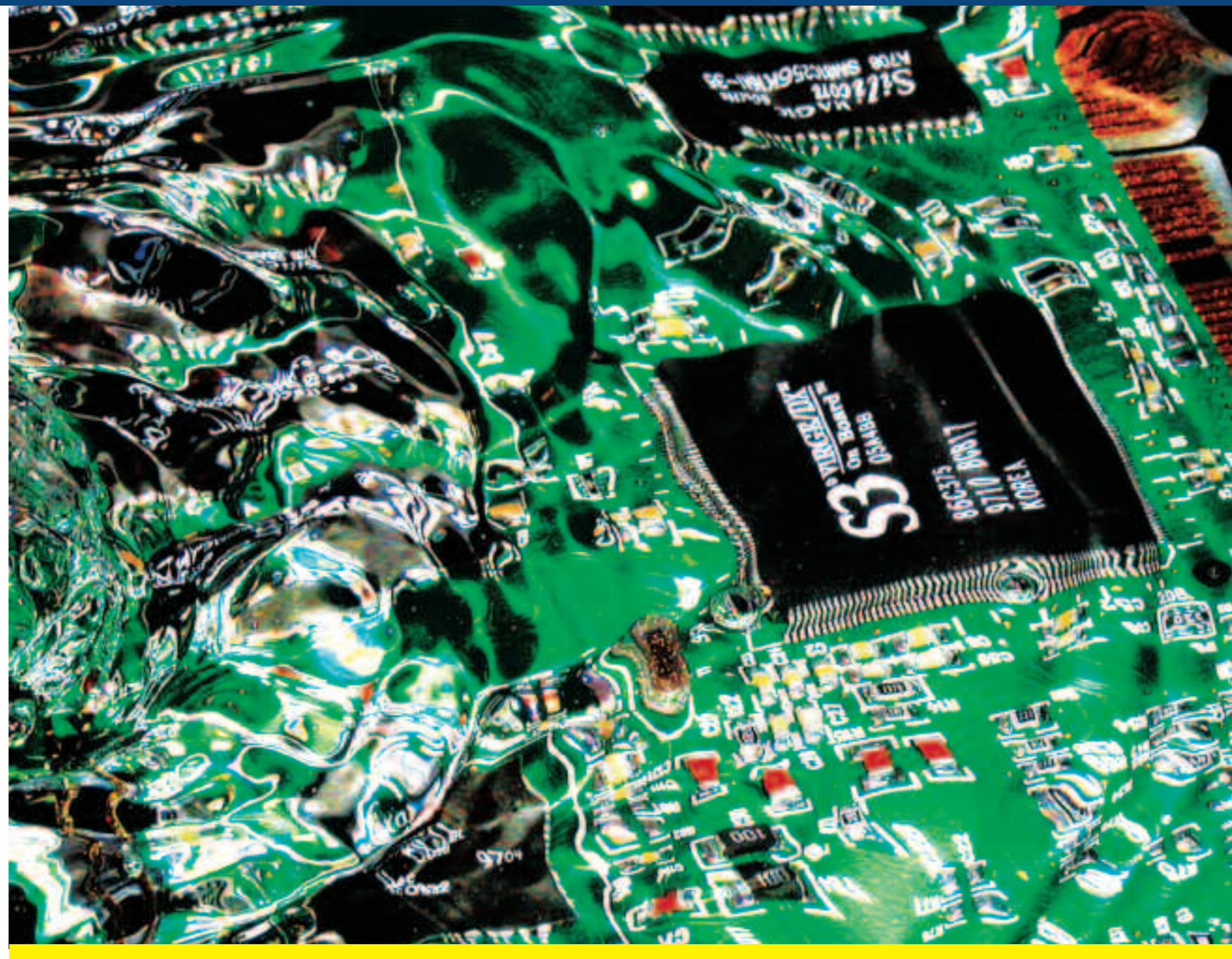
Development at Bally Technologies, is in no doubt as to the continued integrity of the product or its compliance with regulatory standards. "The Bally DG product handles game content in the exact same fashion as games are handled today. Traditional content continues to be developed and packaged in a way that can be delivered via the DG system. We do not expect to have any issues with certification or approval of games related to this system. Gaming is a heavily regulated industry and while Bally anticipates new hurdles with such a change to the way gaming has worked, the benefits of a download system in casinos are too great to stop any jurisdiction from working with manufacturers to resolve these concerns and passing these benefits along to the properties they serve."

Aristocrat's Michael Koch adds, "The route to regulatory approval will not change from the one we have today. In an SBG environment the games are 'ported' to the technology. This process encompasses sophisticated testing and quality certification. The game once ported will be presented to the regulators as part of the SBG suite."

David Orrick, Director of Communications at Novomatic subsidiary Austrian Gaming Industries (AGI), believes that certification and jurisdictional approval of SBG/DG solutions and games is likely by their very nature to be a three-tier process, separate for the solution itself, each of the games and for the gaming machine hardware. "Of primary importance will be the role of the legislature and regulators in ensuring that relevant laws are brought

up to date and regulations are geared for these new technologies," he believes. "It will be interesting to see how the balance is struck between the configuration possibilities of SBG/DG solutions (change of parameters and games at the click of a button) and the interest of the regulator in safeguarding the public from possible abuse of what in some instances could be construed as manipulating parameters to the disadvantage of players such as, for example, lower payout percentages on weekends or higher denominations."

But will this make for difficulties in passing games for certification in some jurisdictions due to their disembodied nature? David Purvis is Managing Director of Cyberview Technologies: "These games are not disembodied any more than they are today. Keep in mind that

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downloadable technology, at its very basis, is only a method of transporting games and program code to the machine. The industry used to use Eproms and Eprom programmers, and then we moved to CD-ROM and Flash chips. Now we are moving to hard drives and direct wired servers. Soon we may move to wireless and other storage media. It is about making the installation process easier, more secure and simpler to certify, not at all about making things any more difficult."

The people who ultimately fund the industry and who therefore need to be protected more than anybody are the players and they can take comfort from regulations adopted in 2006 by the Nevada Gaming Control Board (NGCB). "Casinos can only adjust a machine if it

has not been in use for four minutes, or long enough to be certain nobody is actively playing," confirms NGCB Chairman Dennis Neilander.

HOW MUCH WILL IT ALL COST?

As to the issue of cost, there are two elements to consider, the risk to existing revenues that widespread replacement can present and the investment required to embark upon such replacement. Slot machines are crucial to the operating sector. They are their own 'safe bet' and it is estimated they generate over 75 per cent of global casino gambling revenues. With the supply sector now attempting to persuade them to not only exchange their 'goose that lays golden eggs' for something new, but to also pay handsomely for the privilege, it is understandable that many are choosing to tread carefully. Billions of whatever currency you trade in could be at stake and new technology can be intimidating to many casino owners, most of whom WERE born in the 1950's and 1960's, if not before. 'Potential' and 'promise' are uplifting songs to sing, but 'confidence' and 'belief' are the commodities that have to be sold hardest.

Bally Technologies' Jeff Allen is happy to tell it how it is. "The investment required for a downloadable gaming solution can be broken into hard costs and soft costs. Hard cost investments include network infrastructure improvements, server equipment acquisition, new gaming machine purchases or upgrades and game software. Soft cost investments include employee training, internal controls modifications and feasibility and implementation studies."

Steve Allen, Sr. Product Manager, Server-Based Gaming at Progressive Gaming International Corporation, offers a slightly modified view of this scenario. "Downloadable stand-alone systems will not require a very large investment in new hardware. In most casinos, the existing network infrastructure will be able to handle the demands of this type of gaming with relatively modest investment in server hardware. Many existing video gaming devices can be adapted to support downloadable gaming. Thin client (pure SBG) and hybrid server-based systems will require more significant investment in infrastructure because the network and back-end hardware are mission-critical. These systems can support a much broader array of content and delivery channels, including multi-player and peer-to-peer games, wide-area gaming networks and mobile gaming."

David Orrick clearly believes that more questions have to be asked
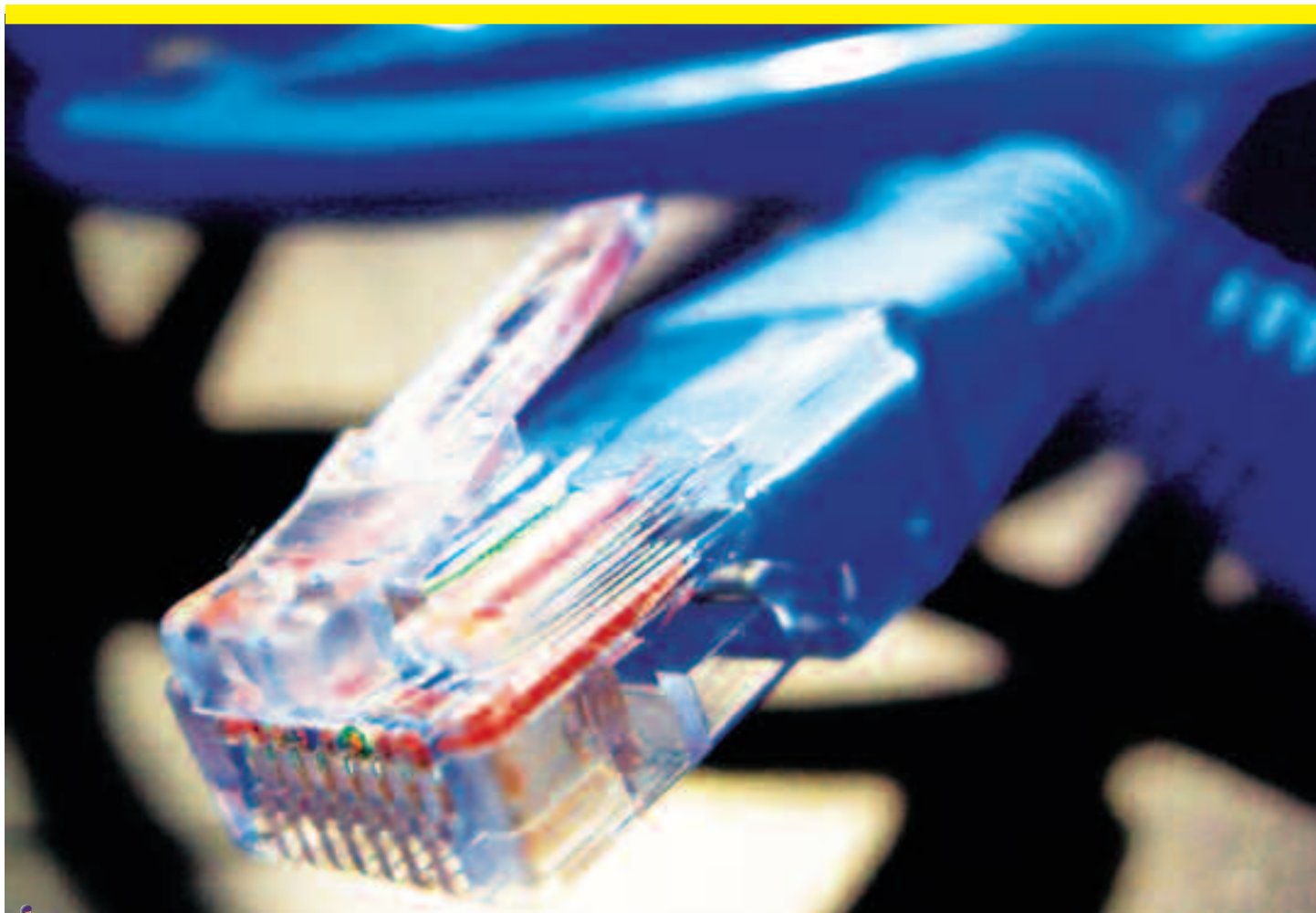
before definitive answers can be provided: "As to investment we first need to clarify investment by whom? Does this mean by traditional gaming machine manufacturers, game developers or operators? Most major machine manufacturers already have and continue to make serious investment in the development of SBG and DG technologies as well as game content. This investment is substantial as it mostly entails development of new platform technologies in addition to game content - all whilst continuing to invest in stand-alone platforms and content for existing platforms. As such, a number of gaming machine manufacturers have come together in various alliances and/or co-operations. At this time investment for early entrant operators is substantial and, particularly with reference to existing operations, largely prohibitive. Some operators are looking at trial installations covering only small portions of their gaming floor in order to get a feel for the reality and not least of all to gain an understanding of the practical implications."

And David Purvis provides a further slant on this issue of cost: "Cyberview recently introduced retrofit technology which converts legacy gaming machines into a downloadable system, enabling the key benefits of this new technology. Designed to add new value to existing machines, this 'refresh' technology provides a cost-effective method of enabling a wide array of the key functions of our server-based DG system. We believe that our experience in bringing this technology to new markets and new players are of key value to maximising any investment."

In order to accurately assess the level of investment required, the operator must provide information relating to the number of gaming machines to be initially connected to the download system and estimates of future additions. A layout of the slot floor provides the information necessary for engineers to estimate the high speed network requirements. The soft cost investments described by Jeff Allen are estimated by analysis of the implementation plan for the casino. A download implementation plan will include expected uses of the product, descriptions and flowcharts of required minimum internal controls and process diagrams.

These plans will be used to assess employee requirements, impacts to costs associated with internal control changes

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> **David Purvis, Cyberview Technologies.**

and improvements to efficiency.

WMS Gaming's Rob Bone tackles the question of cost from another direction thanks to the in-built technology of the company's CPU NXT hardware. "All current WMS products with CPU NXT are capable of executing on certain aspects of server-based/downloadable technology today," states Mr. Bone. "We have demonstrated our next generation Bluebird 2 cabinet, with CPU NXT2, that will provide all functional capabilities needed in a mature, server-enabled environment. On the software side, our pricing approach is focused on game enablement features that benefit the player experience and the earning of the games themselves. We continue to refine this pricing approach such that it will allow flexibility and maximum value for our customers once our commercial WAGE-NET products (Wide-Area Game Enhanced Network) are made available."

WILL THE INVESTMENT PROVE WORTHWHILE?

It sounds like a lot, but will it be worth it? Good casino operators are the hardest people on earth to sell to and the last people on earth to be led a dance. Octavian's Robert Dykstra knows that better than most and he

 believes that "operators will test extensively and tread carefully. They know that responsibility lies with the manufacturers and developers to prove the value of these systems."

From a financial point of view, the multi-million dollar question is, will the costs be justified by the benefits to the operators and their players? Progressive Gaming's Steve Allen continues the cautious theme, albeit one of optimism: "This is one of the major hurdles that SBG faces in trying to establish a foothold on the gaming floor. There is still little empirical evidence to support the claims of system providers regarding operating and marketing efficiencies. As early adopters discover how to best use this technology to drive profit, it will gain wider acceptance. Stand-alone DG may find a quicker path to market due to the lower initial investment."

David Orrick is certain that investment costs will ultimately be justified. "Nobody is seriously suggesting providing a player with a games download menu listing hundreds of games available. Anecdotal evidence suggests that at 25 plus games, players are 'spoilt for choice' and revenues suffer. So, though the player will benefit from choice and an ability to personalise his or her gaming environment, the driving force behind SBG/DG must surely be the benefits for the operator. As always in our wonderful free market environments, supply and demand will dictate pricing, subject to the cost of manufacture and the general support of the industry. Acceptance and adoption is likely to vary from jurisdiction to jurisdiction and from market segment to market segment. With regards to SBG/DG, 'benefit' is a relative term that has much to do with economies of scale. The benefit of being able to remotely and centrally determine with a few mouse clicks the game mix for 1,000 machines is of no value in an operation with 10 machines, and in an operation with 100 machines the ability to do this would be revenue enhancing but possibly not worth the price."

As shown through the many technologies that have been introduced onto the slot floor, there have to be tangible benefits to both the operator AND the player in order for the full cost justification to make sense. Good examples of this phenomenon are the credit meter, bill validator, and most recently Ticket-In/Ticket-Out. "WMS' constant focus on Player Driven Innovation (PDI) will drive demand based on innovative features that increase the earnings of the games," comments Rob Bone. "While this technology will provide floor management and yield management

efficiencies, it will be higher coin-in and customer loyalty through more personalised gaming experiences that should provide the necessary ROI over time."

Cyberview has operated in what is known as the 'online space' since its inception and David Purvis offers a more assertive view: "Our customers help provide the answer to this. We hear from these operators that they have cut costs and are maximising revenues with the ability to change games with no disruption to business and no cabinets to move around, increase control and flexibility with added monitoring and real-time reporting and improve critical security with new end-to-end protection. On an ongoing basis, customers are set to benefit from continuing development of new features

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and functionalities to the systems. These include the latest Remote Diagnostic Application (RDA) which allows operators to solve machine problems centrally without leaving their desks and a Game Development Tool Kit (GDK) which brings rapid game development technology to the industry by enabling third party developers to easily and rapidly create games for gaming venues on our system platform. As for players, they benefit from increased access and a larger spectrum of games, multi-denomination, on any machine and richer promotion, bonus and progressive schemes."

"Each operation will have a different Return on Investment (ROI) analysis based on use of the download system," adds Bally's Jeff Allen. "If
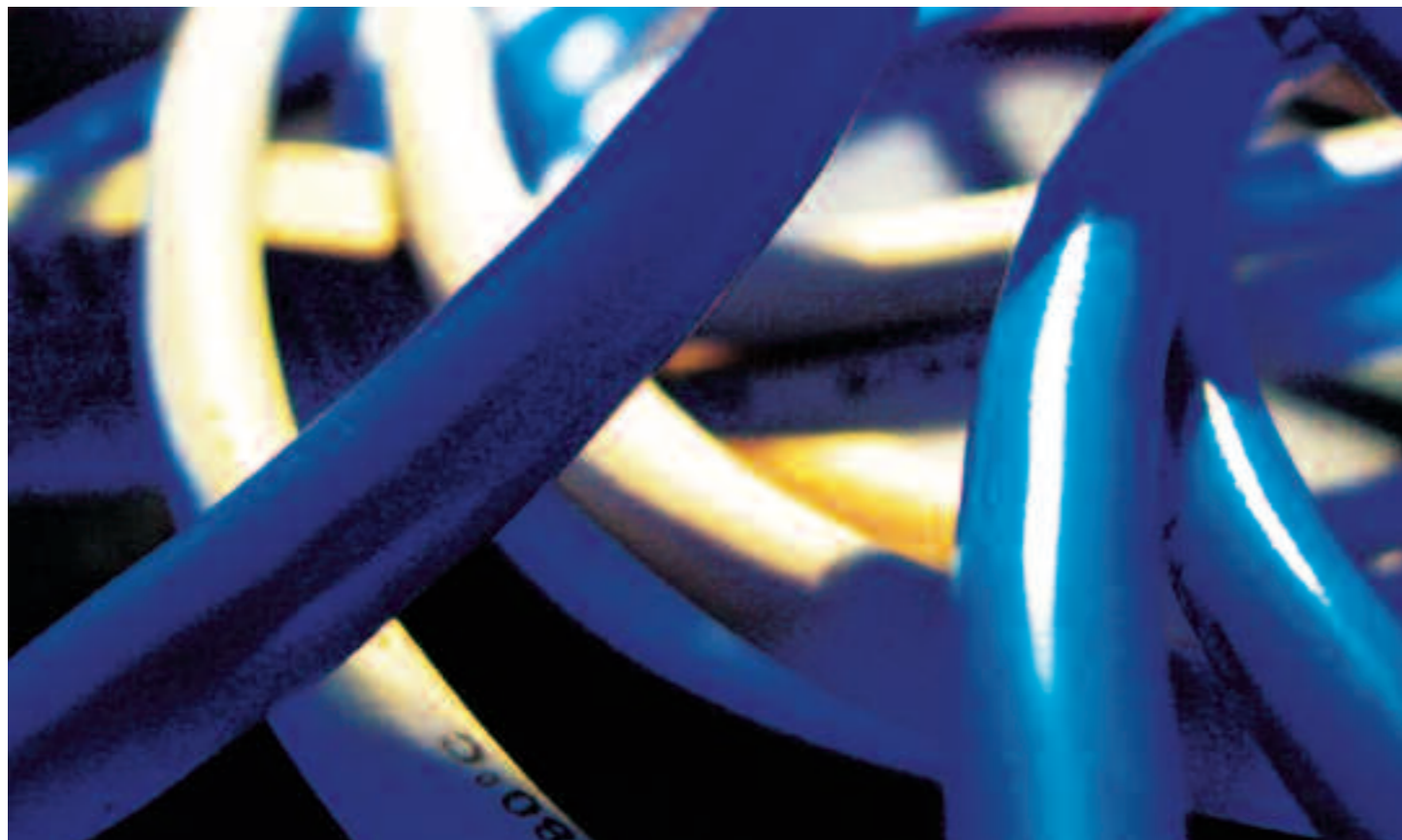
you measure justification in terms of player satisfaction then we believe there will be immediate benefits. A download system can be used to dynamically configure and optimise the floor for specific players or groups. A compelling argument can be made that more satisfied players will result in increased revenue and player loyalty. Another measure of benefit is the improvements to the efficiency to the operator. We have no doubt that a download system will provide the means for a Slot Director to perform their job more efficiently and expertly."

While new facilities can easily plan for the necessary architecture to accommodate SBG, existing facilities will need to update their "back-room" technology, systems, and employee training to allow for this technology to be offered. "Current products that manufacturers are providing today are SBG ready ensuring that operators can move to this new technology," explains Rob Bone. "WMS' focus in to provide an 'agnostic' server solution that will interoperate with any third-party system that the casino chooses to implement. This reaffirms WMS' commitment to the player experience and provides more flexibility for our customers in making the right decisions for their particular floor."

The initial costs of a download system are quickly made up through instant configuration changes and game downloads. Instantaneously a casino operator can change 50 machines from one game to another, all at once, and not have to physically change glass, software, empty cash boxes or worry about regulatory issues that accompany physical changes. Download and configuration changes not only reduce costs, but also increase revenue. Being able to instantly change one cent denomination machines to 10 cent machines on a Friday night when all the machines are full is a luxury that casino operators have never had before and when they are able to explore the full benefits of a download and configuration system, they will quickly find that their initial investment was a relatively small price to pay for the ability to have such control over the casino floor.

WILL SBG COMPARE WITH TRADITIONAL SLOTS?
Having considered the technology requirements, cost implications and potential positives associated with SBG and DG, let us return to the existing 'goose that lays golden eggs' and consider the benefits of these new systems relative to traditional slot machine gaming, which has to be one tough act to follow.

"Every provider of SBG solutions will happily provide a list of the perceived benefits to both players and operators, observes David Orrick of AGI. "For

players these include playing the games they want to play at any location without having to move from machine to machine. The hottest new games can be personally picked for players based on their profile and betting options can be customised for each player. Operators can maximise revenue by changing games to match player demographics on the floor at any time; they can optimize the gaming floor for peak demand, create themes for holidays and conventions, as well as easily set up tournament play. As with any tool, benefits are proportional to the effort in leveraging opportunities that result. As to specific benefits of SBG/DG over stand-alone gaming machines, SBG has tremendous potential in cost saving and revenue maximization through floor mix management."

Operator control is the key selling point underlined by each of the companies quizzed over the issue of server-based/downloadable gaming, though WMS' Rob Bone believes there to be additional benefits when compared to traditional slots. "Two major benefits are seen today with more to be defined in the future as the technology is widely adopted," outlines Mr. Bone. "The first is the operator control that allows reduced time to market for new products, yield management, and faster floor and peripheral updates. The second is in-game features that provide new

levels of player experiences including customised games and player services, as well as new innovative game mechanics that cannot be offered in a non-networked environment (i.e. full communal gaming and Monopoly – Big Event.)"

"Investment in game hardware will be leveraged by the ability to offer a greater variety of content, even extending the useful life of a slot cabinet," says Progressive's Steve Allen. "Upgrading and converting cabinets to offer new content will be a quicker and simpler process with reduced labour and regulatory involvement. The programmable slot floor will allow greater control over day-to-day activity. The ability to change the mix of games and denominations across the floor centrally will allow the operator to schedule a mix of content which will best appeal to current demographics of the players, thus maximizing revenue. Internal marketing can also be enhanced by using the central network to drive cross-promotion of other profit centres such as entertainment, dining and shopping."

Flexibility for both operators and players, those at the sharp end, seems to be the over-riding reason why SBG is seen as such a viable revenue earning tool. Equipment that appeals to players, keeps them playing, simplifies management and

reduces costs is always going to make operators happy. In these respects, the benefits of SBG appear to be something of a 'no-brainer' to this uneducated soul. It's a position echoed by Videobet's Vice President of Marketing and Business Development, John Bertakis. "It's clear that anything connected to servers, outperforms a stand-alone devices," affirmed Mr. Bertakis. "Security, revenue management, content (games) availability, more up-to-date with technology trends movement etc. This is a paradigm shift that 'must' happen in gaming."

Cyberview's David Purvis echoes this thought process, but in a more explanatory manner: "With a downloadable system, the operator has the ability to place what games he wants wherever he wants on the floor. The player can insert his unique player card into any individual terminal and the system will recognise him and pull down his favourite games at that specific terminal. But SBG has also been described as a Yield Management Tool. This means that just as airlines can alter ticket prices in response to demand, a Slot Manager can adjust their games and denomination for the same reason. Today, many gaming venues have to have a vast number of electronic gaming machines so there is a game or machine to cater for each of many types of player. But what if

the casino didn't have to do that and if they could just set up their mix of games based upon what their player base is at that time? SBG takes this flexibility off the casino floor and puts it into hands of the operator.

At the same time, SBG is about much more than just downloadable games. The system provides operators with a long list of advantages. These include complete control of machines with a scheduler to manage content, comprehensive reports to enable best informed decisions and a flexible and modular architecture for operating one or multiple sites or in different regulatory environments. Additionally, we supply a Remote Diagnostics Application for supporting casino Help Desks, a sophisticated multi-level Wide Area Progressive Jackpot System and a Games Development Kit (GDK) to enable independent game developers to implement games for the platform."

Putting a different slant on this question of 'downloadable versus traditional' is John Malin, International Sales Manager with UK-based Heber, supplier of technology to manufacturers and developers throughout the world. "The first obvious benefit is simple, the removal of the 'box-shifting' requirement. The SBG location will receive new games and technology

updates and enhancements, but the terminal will remain in situ. The main operator benefit is choice of new and easily acquired game content. But, as ever, the bottom line, the question that has to be asked, is will the cashbox see the benefits of SBG? The player has more choices of the games to play and that is a huge positive. As far as established manufacturers are concerned, the question that has to be asked of them is do they want to create content or move boxes? In the UK, it was stated 10-15 years ago that the AWP market would be 100% video-based by now and it is not even close. The industry moves at a considerable pace in some areas and much more slowly in others. At least technology reduces limitations – game design used to be limited by technology's inability to keep pace with ideas – but X86-based technology (PC) has overcome this hurdle."

In referencing the role of established manufacturers in this changing environment, John Malin inadvertently entered an area that may be seen by some as somewhat 'political'. Rather than harness him with the blame for wandering into this territory, we shall take up the mantle for him.

The larger manufacturers have vast and established infrastructures to continue to support and have, to a greater or lesser extent, collectively dominated the global supply of gaming machines to casinos since there was an industry. This is not to imply that they operate any form of 'cartel' for they are as fiercely competitive as it is possible to be. However, it is a fact to say that they dominate the supply chain and it is a fact to say that this new technology can separate the links in this chain and create huge opportunities for newcomers. By definition, this will lead to re-evaluation of these vast infrastructures. The clear separation of hardware and software will inevitably lead to re-thinking within the 'big guns'.

The downloadable function and the centralisation of server-based control significantly reduce the need for frequent hardware upgrades. In plain English, upgradeable game terminals do not need to be replaced as often. Not anywhere near as often if they are made well. Long-term, the new SBG technology puts more focus on software development and less on hardware manufacturing, and manufacturing and distribution are both capital and labour intensive. Major manufacturers rely on volume and benefit from economies of scale. If the focus of the business model shifts to the sale of game content that can be moved around the world in seconds via the internet, and away from building large boxes that then have to be stored and expensively
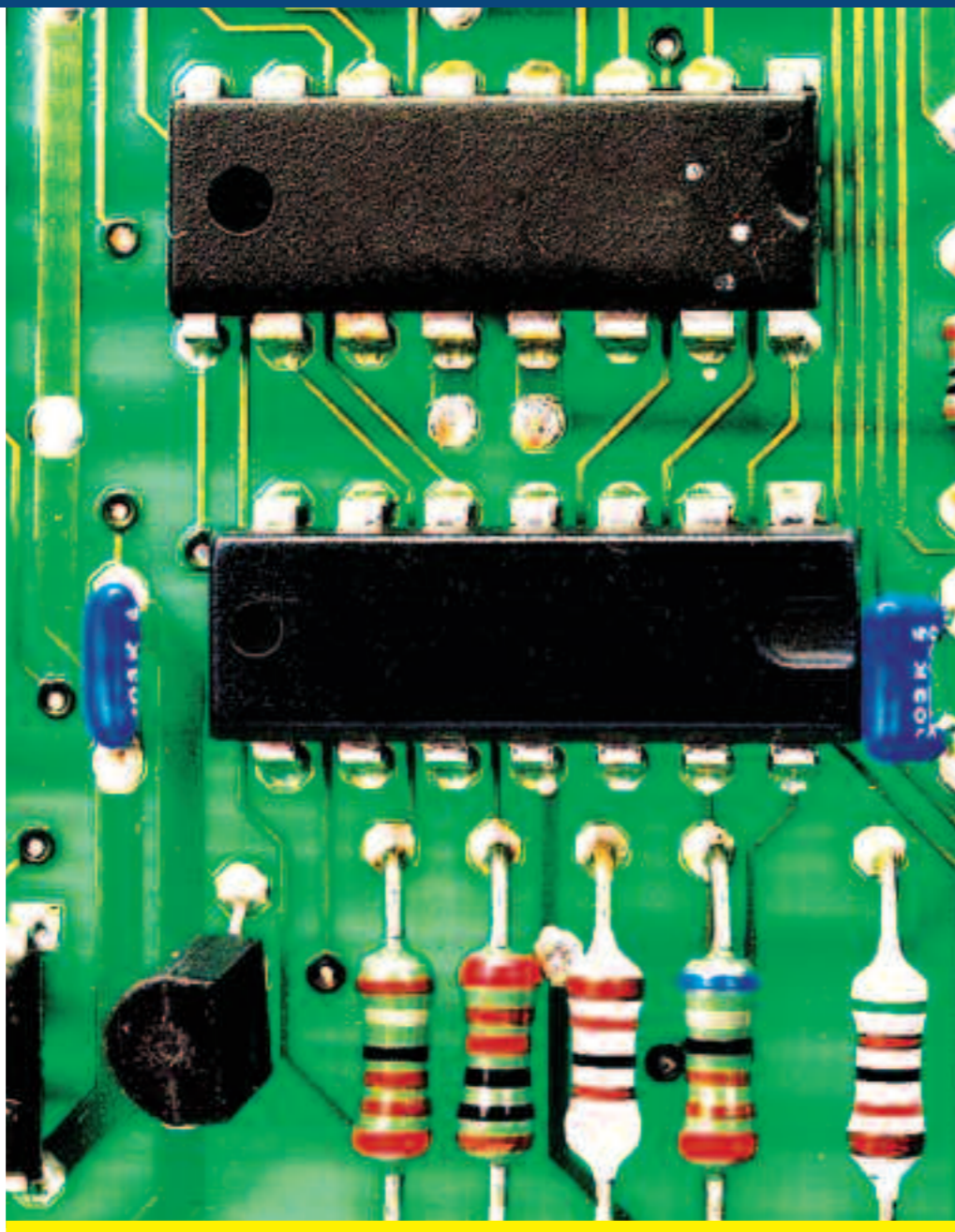
transported, then the world as they know it will change every bit as radically as the casino floor they are seeking to transform. The two largest slot machine manufacturers in the world are IGT and Aristocrat. Their respective acquisitions within the software development sector, including Mariposa Software in Las Vegas (IGT) and ACE Interactive in Sweden (Aristocrat) are indicative of their recognition of this reality.

IS THERE FIRST MOVER ADVANTAGE?

Having hinted at what may be awkward implications for 'legacy providers' of gaming machines, it is only balanced to point out that the story of David and Goliath was exactly that, a story. In the real world, the old boxing analogy applies. A good big 'un usually beats a good little 'un, which is why Michael Koch of Aristocrat has the first opportunity to answer the next important

question. Is there first-mover advantage to be gained from supplying downloadable games before the competition or will it be more prudent to wait until the technology is better established, and possibly cheaper, before stepping into the arena? "SBG has been deployed in casino gaming for a number of years. The best example of this in is the Class II networks found in Native American casinos in the US. Lotteries have also employed similar technology for years. First movers run the risk of costs and difficulties associated with technology deployment. However, balanced against that is player satisfaction and the boost to cash box revenue from new content and lower operating costs. Operators who wait may avoid the former and but miss out on the latter."

In keeping with the logic that the supply sector will inevitably become more software focussed with the

acceptance of SBG, Steve Allen of Progressive Gaming believes that the early movers will need to be game developers:

"Although SBG technology has not yet achieved widespread acceptance, it will one day become the 'de facto' standard for the industry. Game developers would be wise to position themselves by establishing relationships with one or more of the major providers of the technology."

WMS' Rob Bone, however, believes that the decision to adopt SBG really depends on each customer's competitive market environment and how willing they are to enhance their slot floors with the administrative and innovative features that SBG can provide. "Those that embrace the technology on a first mover basis will gain large value in the insight and operation of the technology, while those that are more patient should benefit

address the issues at hand. Part of the problem is that by the nature of a download, the solution through which that download is transferred generally has transparent insight into what is being transferred. Think of the implications when game content from one manufacturer is downloaded via the SBG/DG solution of another. It makes no sense whatsoever for each manufacturer to invent its own solution, as it is obvious that each operation will ideally have only one solution implemented. Think of the nightmare for an operator who wishes to have game content from five different providers if he then had to implement five different solutions, each with their own features and modes of operation. The sensible answer is for co-operation between manufacturers where one develops a solution that acknowledges and addresses sensitivities in protecting game content and related IP whilst providing operators with unified implementation."

"First mover advantage is always a double-edged sword," adds Robert Dykstra of Octavian. "It is always exciting to be first to market with an innovative product, but in such a technology-driven environment, this requires heavy investment and risk."

For all the caveats and caution, the gaming industry is more than any other one that has always been driven forwards by those with more than a hint of the 'maverick' in their character, who understand that in a noble world, fortune should always favour the brave. So perhaps David Purvis best sums up the spirit of first mover advantage when he asks: "Do we want to be leaders or followers…?" While the view of Videobet's John Bertakis is very positive: "No one will lose or win as the first mover, it's rather a question of who can get there the quickest with a workable SBG solution. It's also up to the operators to take that jump into a more scaleable frame of mind. Do they want to improvise on new technology and get a better ROI?"

from less ambiguity in how to utilise the functionality itself," he reasons. "If the introduction and player positioning of the technology is done effectively, those that are first movers should have a large advantage in player acquisition and retention."

"The primary issue with early adoption on the supply side is that this is a complex concept that promises a lot and will require heavy investment for early solution developers," adds AGI's David Orrick. "By virtue of the nature of the traditional gaming industry (proprietary hardware, proprietary game content, highly restrictive regulatory requirements, privileged licensing, high security standards etc.), it is unavoidable that different solutions will emerge, each with its own merits. The market will ultimately decide which survives. Standards such as those from GSA do not begin to fully

IS CONTENT FINALLY GOING TO BE 'KING'?

Everybody connected with the gaming industry has always known that game quality is the ultimate ingredient of success. The best products in the history of slot gaming have always been the best games. However, just as football players don't run football clubs, so developers don't run slot manufacturers. Like it or not, other factors come into play and, in many cases, rightly so. Good as a game might be, if it is housed in an unreliable cabinet it will never fulfil its potential. Equally true is the fact that supply contracts are won by manufacturing companies and not by developers,

so a great game in the wrong hands may also not achieve widespread sales. But whatever the marketers might tell us, players simply love their favourite games and are rarely blindly loyal to producers. When they are enjoying the 'buzz' from a game they love, they could not care less who made and delivered the finished package.

One of the beauties of SBG gaming, where architecture is PC-based, is that it theoretically 'opens' the content development arena to an almost limitless number of developers. In this respect this means that the market could follow the lead set by the home computer sector where several top-selling and classic titles have been created by individual 'bedroom developers', working alone on an 'open' system with no formal link to a major manufacturer.

In this scenario, content finally does become 'king'. The best games are played and paid for by the greatest number of players, whether they be created by a 25-year veteran of the industry employed by a major machine manufacturer or a teenage genius who is definitely neglecting his homework and probably needs to find a girlfriend and get out of the house more.

As Aristocrat's Michael Koch explains, "SBG creates an open environment for developers whereby they can port their games to the SBG using a Software Development Kit (SDK) or Game Development Kit (GDK). These kits distance the content provider from having to understand the nuances of the gaming environment and allow developers who are not gaming specialists to develop content for deployment. This dramatically increases the number of content providers and their diversity as essentially the cost of distribution is significantly reduced. Traditional content providers may find this environment daunting, whereas content providers who currently have previously bypassed gaming due to its specialist nature may find it invigorating and challenging. The operator, and ultimately the player, will benefit. Good content providers will differentiate themselves by quality and will have to communicate that to players. Game quality and good branding will ensure the good content providers thrive."

"Current game developers are linked to manufacturers," adds Robert Dykstra, "but new providers will inevitably enter this new market as has been seen in the online and mobile sectors, where gaming markets are dominated by newcomers who understand the technology. Partnerships will become more important than ever before if the best games are to

be shared. The ability to deliver variety and therefore choice is one of the major benefits of SBG. Nobody ever succeeds with single sourcing."

It is this last point made by Robert that will strike a nerve with the established providers. Since when did 'sharing' unique games become part of the industry's equation..?

"SBG has certainly opened the door for a new breed of games developer," explains David Orrick. "To date independent game developers have occasionally provided content to machine manufacturers on a sub-contracted basis. Many software and graphic art development teams are standing in the wings awaiting an opportunity to pounce and provide game content for someone else's platform. This brings to the fore what is probably the most contentious issue surrounding SBG/DG, the business model. Traditionally, the business model of every gaming machine manufacturer in the world has been the sale of gaming machines with the reflected component value of the game content being proportionally a smaller part than the hardware. But what happens in a world of SBG/DG where the hardware lifespan more than doubles and the cost of development and after-sale service of the software and game content increases?"

But Koch is insistent on pressing home the positive: "There are many content providers, only a few of which are

> **"Most of the companies that entered the downloadable market at the beginning came from an internet background, but traditional gaming companies reacted quickly and now they have products in their portfolio."**
> **Petr Mikoska, Synot Lotto.**

represented by the manufacturers. SBG allows us to reduce the cost of content distribution so that the choice of suppliers to operators increases dramatically. It may take new entrants a small time to complete a learning curve but ultimately there should be no reason why they can't be as competent as the current small handful of content providers."

Is this diplomacy or a view of the future through rose-tinted spectacles? Why would an established manufacturer want to fund expensive development departments and personnel when in an 'open' world they can remove those overheads and simply license the best content from the 'hot' developer of the day..? And be absolutely guaranteed that the game will succeed..?

As MD of one of the comparative 'newcomers', Cyberview's David Purvis has a more 'open' minded view of content sourcing: "Currently, we have a library of games developed in-house and by working with other industry leaders and outside developers. These partners have included Konami and WMS Gaming. Additionally, we envision a future that will place more freedom and control in the hands of operators and players. An integral part of this vision is the introduction of a GDK that brings rapid game development to the industry. For the first time ever, this GDK will allow any third party game developer, whether already in gaming or working from their own creative
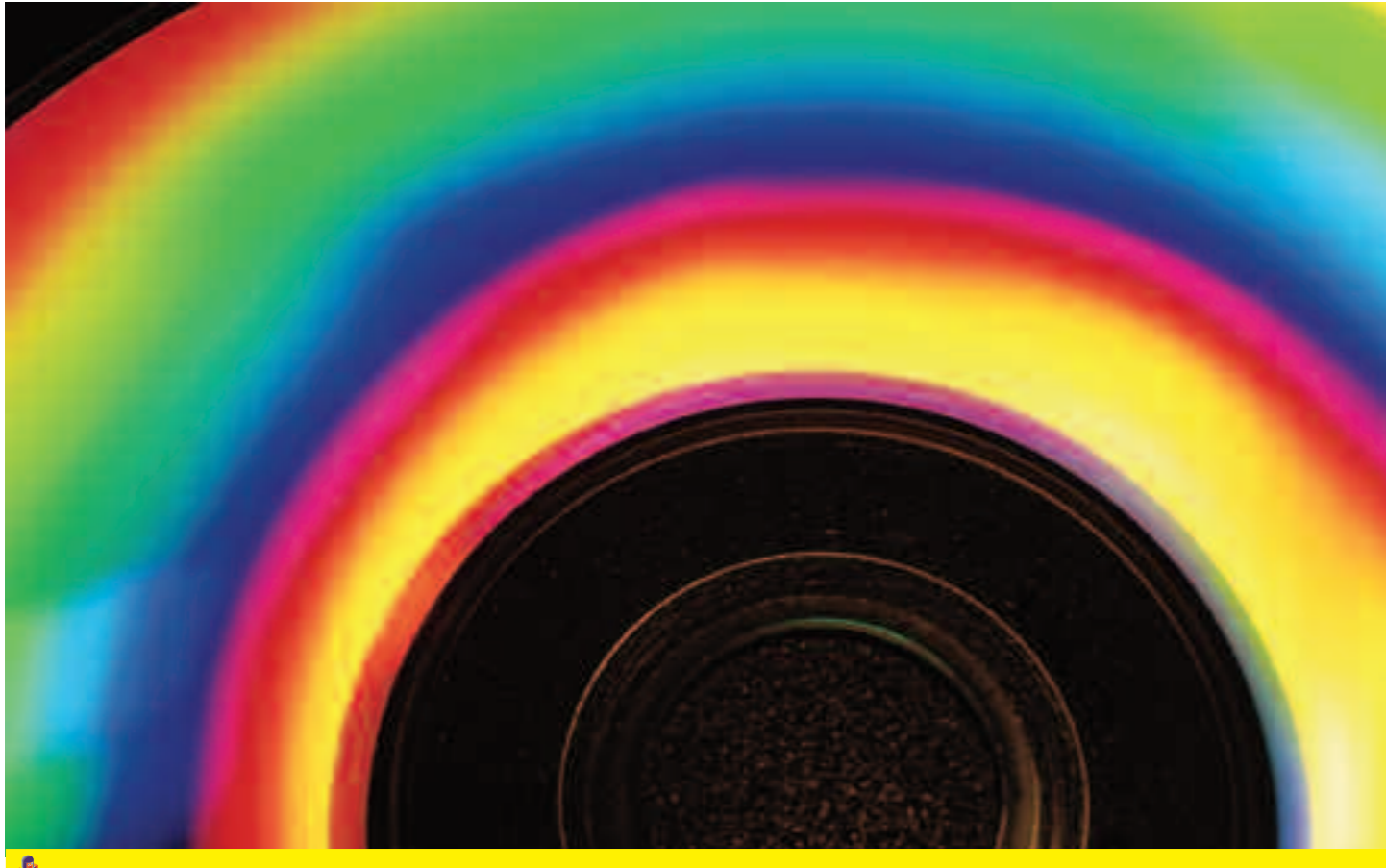
mind, to develop and deliver games to the casino world. Large and small gaming venues will be able to design games just for their player base, or for others. By providing a suite of tools and services, the GDK is aimed at simplifying the development of content and providing more flexibility and speed."

SBG allows for features and game enablement that do not exist with current technology. Operators can now address the configurations and yield management of the entire floor on a holistic basis as opposed to the one-by-one approach today. "At the game level, WMS is pioneering this technology from a player's perspective to create the most dynamic experiences in the industry that can only be provided with networked technology," adds Rob Bone. "Players will definitely see an increase in the level of personalisation and entertainment via the content of the products themselves. All in all, the proliferation of this technology will make slot floors much more efficient for the operators and more engaging for the players."

And Steve Allen of Progressive is equally 'open' minded, but with just a hint of a caveat: "There will be new entrants to the content development portion of the business as open standards are developed. PC and console game

developers will find new opportunities in SBG. Significant barriers to entry in this market will remain in the form of regulatory and licensing requirements in many jurisdictions. A gaming technology provider will be able to provide a system that meets both complex regulatory requirements and the needs of the gaming operator. In most cases server and network hardware will be off-the-shelf and can be sourced independently from software. Some systems require proprietary gaming devices, while others are capable of deploying on a wide variety of client hardware."

Petr Mikoska is Managing Director of Synot Lotto, the Czech Republic's leading provider of gaming machines and downloadable gaming services. With a foot in each camp, and in a steadily emerging part of the world, Petr is well-placed to understand how reluctant – or otherwise – established offline developers might be to move away from their box-building business and make their game content IP available to operators for offering across a wide network. "Most of the companies that entered the downloadable market at the beginning came from an internet background," he explains, "but traditional gaming companies reacted quickly and now they have products in their portfolio. How the market will be affected depends upon the

"Current gaming industry business models do not specifically provide for downloadable content. The majority of the sales models of international manufacturers account for a large portion, if not all, of the game content development costs in the 'per unit' price of the machine hardware. Clearly new models will need to be found and, as always, commerce and free enterprise will show the way." David Orrick, Austrian Gaming Industries.

flexibility of the suppliers, but nobody who is serious about this business can stand still. If we want to remain part of the market, we have to respond to its changing requirements."

Such public statements of openness and welcome to the newcomers, especially those whose creativity can up the ante in terms of content choice, are great news for both operators and players. Land-based casinos have to do everything they can to compete with their online counterparts, whose share of the overall global gambling 'drop' has gone from zero to billions of dollars in only a handful of years. On the positive side, online gaming – and particularly Hold 'Em Poker – has delivered a fantastic shot in the arm to gaming and raised interest and player enthusiasm to unprecedented levels. The duty of the 'bricks and mortar' world is now to repackage their proposition to maximise this externally created opportunity and attract a new breed of new and hungry players to the live environment. Alongside the phenomenon that is live tournament poker, SBG is the surest route to these techno-gamers hearts.

HOW WILL THE 'NEW' DEVELOPERS BE PAID?

But, what it all comes back to is the realities. Only a blind fool would reject the theory of the argument.

We all know we have to move with the times. In practice, difficult decisions have to be made and awkward questions answered. For example, how will the games creators, particularly the third party creators, be paid for their games within the SBG environment?

"Ah, the other one hundred million dollar question!" suggests David Orrick. "Current gaming industry business models do not specifically provide for downloadable content. The majority of the sales models of international manufacturers account for a large portion, if not all, of the game content development costs in the 'per unit' price of the machine hardware. Clearly new models will need to be found and, as always, commerce and free enterprise will show the way."

"In a SBG environment where content is available online both content providers and operators would want to operate on a pay-for-play basis," believes Michael Koch. "This will mean that the content provider gets paid if the game is played and successful providers will generate worthwhile cash streams that will encourage them to develop quality games that players want to play."

"It will be common for a developer to participate in the revenues generated," agrees Steve Allen. "Typically, the system provider will agree to a split of the fees received from the casino operator. This may or may not include advance fees to cover development costs. In other cases, games may be sold outright to a gaming technology provider, with no back-end participation."

So, once again, nothing is certain? "It may be like this, or it may be like that" seems a common answer to yet another question, as is often the case with evolving business models. Flat fees offer a guarantee of security to developers, whereas ongoing royalties, whilst more risky, offer the potential of astronomical earnings in the event of a game hitting the proverbial jackpot with players.

Early in his career, when he was still struggling to make ends meet, the actor Michael Caine landed the leading role in a movie called 'Alfie'. He was offered the choice between what, at the time, sounded like a hefty flat fee and an ongoing percentage-based royalty arrangement for his performance. It was the first half of the 1960's and I believe the flat fee was £75,000. His personal circumstances meant that he took the up front money, which was more than 20 times the average annual salary in Britain at the time. Years later, the then Sir Michael reflected that his earnings under the terms of the proposed royalty agreement would have earned him several millions of pounds, a revenue stream that would probably never dry up.

The point of the analogy is that the choice between flat fees and royalties will forever be something of a gamble on both sides, as may reasonably befit our particular business. Different parties on both sides of the negotiation will always have varying priorities, and given that buyers will always seek to pay as little as possible and sellers will always look to earn as much as possible, an ever-evolving 'menu' of business models seems inevitable.

However, Jeff Allen doesn't necessarily agree with this hypothesis: "There will be no significant difference in the way content creators will be paid using downloadable technology versus traditional distribution technology. The downloadable process is an automation of the current distribution methodology. The more significant difference for game content creators is the new types of games that are now viable with an SBG system. Game creators can provide content that is more akin to games currently offered over the internet, where massively online 'community gaming' is dominant. SBG offers new distribution channels for game content creators and a new revenue model."

HOW WILL GAME DEVELOPMENT BE FUNDED?

But since swapping of games is so much quicker and more simplified, will game development be funded by flat fees, actual time on the machine or royalties based on player participation? Aristocrat's Michael Koch likes the question: "You stress the point that true SBG may require different business models, but at this stage, it is too premature to say what these will be. What is required from a solutions provider like our own ACE Interactive though is to stay flexible with business terms to completely meet the needs of its clients and to always be ready to adopt new ideas."

Steve Allen of Progressive is somewhat more definitive in his response: "More common will be a flat daily fee or some form of revenue-based fee. Since revenue generated by each game is easily measurable, this will be the fairest method of compensating a game developer. It is appropriate that the best-performing games result in the best compensation."

It is this answer that the most

ambitious content developers want to hear, not only from Progressive but from the whole hardware provision sector. This promise of fair partnership and performance-related rewards will give them the confidence to share their creativity and allow the 'box-builders' (as they call them) to see the secrets of their creativity… Assuming that these 'Utopian' partnerships are put into place in a new 'open' SBG world; how long it be before the so-called 'Triple A' game titles from the current proprietary slot machine environment are available as more universal, downloadable games?

Jeff Allen maintains that Bally, and surely all other manufacturers, are going to make their most successful titles download-ready when they bring their own SBG systems fully to market. "We will make all new titles compatible with the download system and convert all existing titles."

Michael Koch explains that this conversion is not as simple as it sounds: "Most current 'Triple A' games require some sort of progressive or mystery linkage to drive their added value. To make these games available in either environment requires more than just managing the download aspect of the technology."

David Orrick believes that game availability will vary from manufacturer to manufacturer. "It is reasonably certain that 'Triple A' content will not be made available for solutions from third-party technology providers or in-house solutions. Internet gaming has been around for a while and the top games are not widely available. On the other hand, Class II gaming, which is clearly a form of SBG, has variations of many of the best titles directly available from the original developers. My answer is simple - games development costs big money and entails a lot of proprietary knowledge. The protection of game content IP will dictate availability in SBG/DG solution environments."

Synot's Petr Mikoska offers a simple summary that will be sweet music to the ears of those who do not have a direct interest in protecting historical investments and those who ultimately decide the fate of every innovation: "Technically it is possible to realise this conversion process immediately. Of course, the last word is always spoken by the players."

The whole area of widespread third party content provision, and its remuneration, is still relatively new ground for everybody involved. Who can say how protective of their hard-earned 'territory'
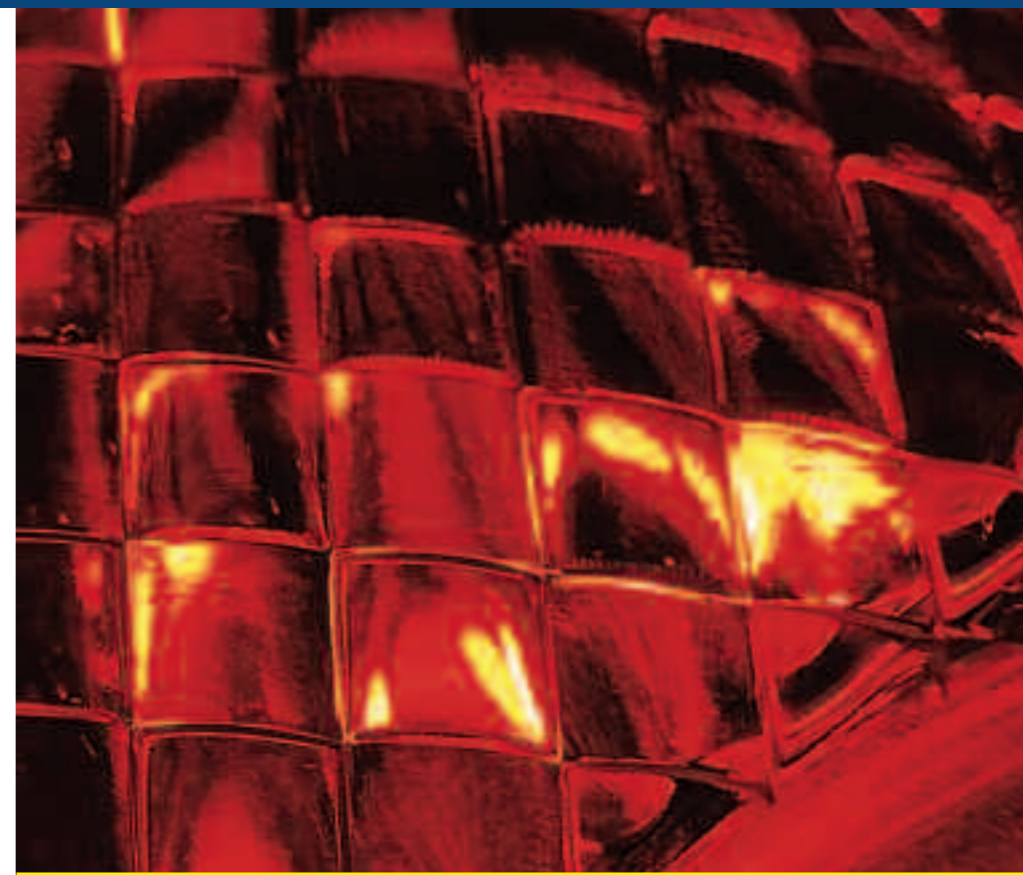
the existing players will be, especially the larger companies that have reaped the rewards of dominance for so long. There is both excited interest and cautious apprehension regarding the change from a manufacturing emphasis to a system and content emphasis. Major manufacturers have significant infrastructure in place for the production and support of their 'boxes' and must be concerned about losing market share to new, smaller and more nimble competitors who can focus tightly and exclusively on developing high quality content. There is also concern that if the gaming machine, or terminal, becomes little more than a 'common commodity' then price will be the only differential and both revenues and profit margins will shrink accordingly.

HOW WILL OPERATORS ACHIEVE DIFFERENTIATION?

Another key issue within an industry where the end user, i.e. the player, needs to be constantly attracted and excited by what is available is the perceived 'uniformity' of SBG. Product differentiation has always been the key marketing asset to gaming equipment manufacturers. If the new SBG terminals are going to be basically just game delivery mechanisms, all housing basically the same suites of proven 'Triple A' games, how are the operators going to achieve the differentiation and excitement they require to enable them to offer something that isn't offered elsewhere?

"It's a huge problem for vendor branded terminals who also provide content as an

offering," argues John Bertakis. "Luckily for Videobet, we are an open-hardware provider of cabinets and also an opn-content (games) provider, so you may choose the best fit for your purposes, unlike our larger traditional legacy competitors. I think the best solution for the future will be a mix of themed games not terminals, and also multi-menu game options. The hardware choice depends on the demographics of the location and operator, also the segment they come from."

David Orrick maintains that games have never been distinguished by their cabinets but by the content itself. "Games are of course characterised by a particular graphic theme, but if this was all there was to it why when two video poker machines from different manufacturers are placed in the same location can one be successful whilst the other is a waste of space? There is more to game content than meets the eye! It is not hard to accept that although cabinet appearance and location within a venue undisputedly plays a role, game content remains the deciding factor of success. As to larger venues using the same terminals throughout, we may find players look for variety rather than conformity - part of the gaming experience is the assault on the senses by the different shapes and lights and presentations and colours and so on…"

Differentiation will occur through the content and features offered in
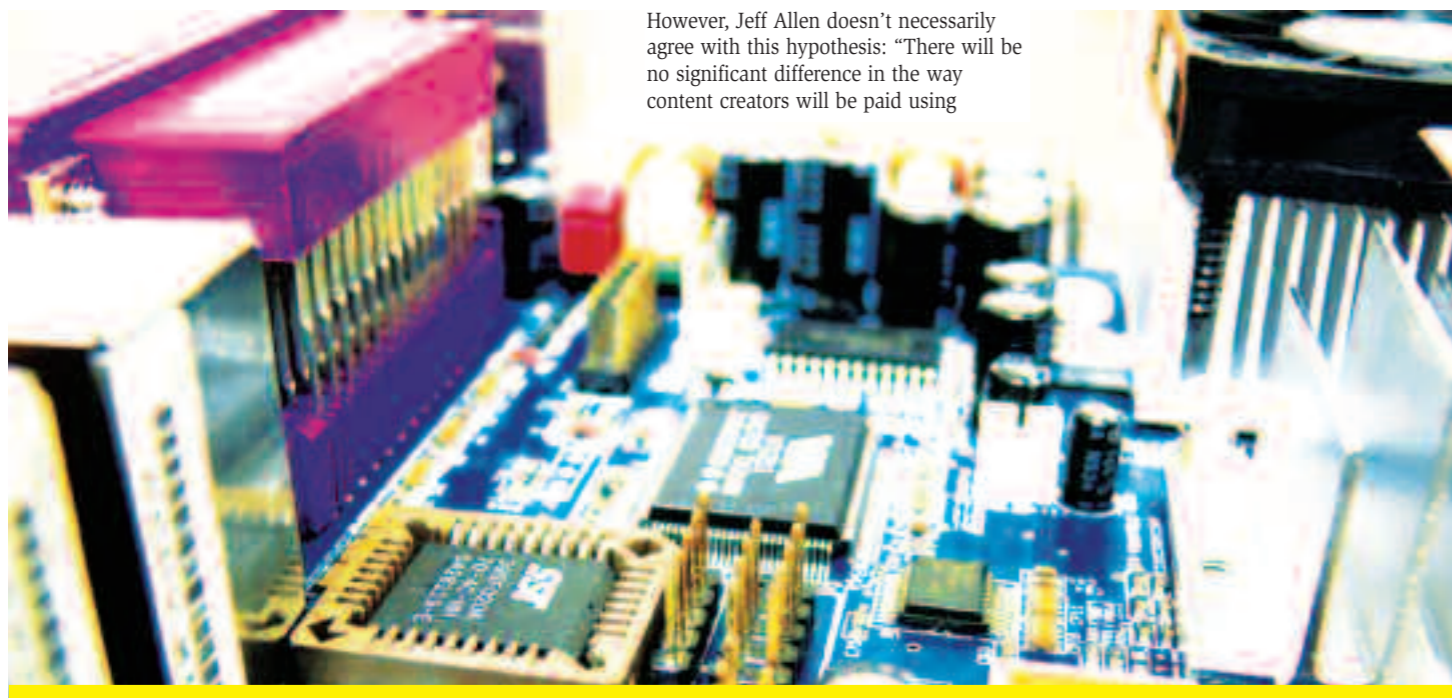
the downloadable system itself and the saviness of the operator to use the tools of the system to maximise floor yield in providing customized experiences and promotions that match their player's needs. "We don't envision all the cabinets on the casino floor being the same and much of the content will be driven by the individual technology capabilities of the cabinet itself (and the server architecture supporting those cabinets)," explains Rob Bone of WMS Gaming. "The casino of the future is not a hall of ubiquitous slot machines. Casino operators and casino designers want the latest technology and features that will give them near and long term use. The players will expect more features and services on the casino floor and it is through the content of each cabinet that games will differentiate from each other."

Cyberview's David Purvis believes that the sheer capability and flexibility of this new medium will lay all such fears to rest: "SBG will provide a more exciting gaming floor with new interactivity within games as well as between players. Richer promotions, bonuses and progressive capabilities can all be uniquely provided. There is the added potential to easily theme individual games to seasonal and promotional events and the ability to test new games and new marketing ideas at near zero risk and costs. As far as the physical terminals are concerned, the static two-dimensional images now seen on slot machines are being replaced by interactive video screens. Operators can also put a definitive stamp on their gaming area with the development of its own games and themes by through use of GDK's and SDK's. In all, SBG is even better at adding differentiation, excitement and resultant profitability to a gaming floor."

HOW WILL SALES TECHNIQUES CHANGE?

Having established the fact that SBG is having the same impact on the casino industry that Apple's iPod had on the music business a few years ago (i.e. we

> "It is an absolute reality of life that as technology moves on it always gets faster and it always gets cheaper. With traditional gaming machines, if you set about designing a reel-based game, you know you're going to need. Then technology leaps to video and online connectivity and servers. Suppliers have to balance costs with price, price with performance and know what they are getting for their money. You have to put your stake in the ground and offer technology with built-in long-term value."
>
> **John Malin, Heber Limited.**

know it is coming, we can't stop it because the consumers want it, so we have to learn how to work with it), the next thing to understand is how sales and marketing techniques will need to change within the industry. Will we need tradeshows, for example, when products can be promoted, sold and even distributed down a wire..?

Bally's Jeff Allen, like our other contributors, calmly deals with such potentially discomforting questions as if he were being asked to name his favourite television show: "Games will be sold using a similar model to right now. They will still have to be personally demonstrated and presented to potential customers and the only difference will occur in the form of delivery, with the casino receiving the game virtually on their own server as opposed to being physically handed the game. Having said that, manufacturers will still need to provide a variety of distribution models to accommodate the very different needs of small, medium and large casinos."

"Just like any new process within technology operations and players seeking a trend change, new demands will come from players to see better quality content 'on-demand' and that mean downloadable gaming, SBG will have to be flexible enough and fast enough to adapt," believes Videobet's John Bertakis. "There will still be some forms of traditional processes that must occur for SBG to work effectively."

John Malin of Heber adds: "The industry will have to cover all options. The first hurdle is to prove the acceptance of the technology. If this new 'best' solution doesn't deliver playability and increase the returns in the cashbox, then it will fall at this first hurdle.

For years, the industry has been focussed on a specific genre of product to develop sales. If the supply sector is saying that the 'next big thing' may only be available in an SBG format then operators will obviously take a long look. But it costs nothing to look and the skill will be to take them from looking to buying and how that is achieved is another learning curve."

But, as David Purvis explains, this does not mean that we will experience an 'open season' on the global promotion and sales of 'open gaming' content. Experienced specialists who know the business inside out will, of course, be protected by those whose responsibility it is to protect. "Games could become independent and separate product offerings. As a result, they could be marketed on their own merits, even more than they are now. At the same time, it is understood that to protect the integrity and security of the systems, content will continue to be offered only by licensed manufacturers or operators. It is doubtful that any gaming authority or regulatory agency will allow content to be downloaded without investigation and certification of the games prior to making them available to the players."

Steve Allen offers a more specific picture of the future as seen by Progressive: "There will be two primary distribution methodologies, depending of the jurisdiction and nature of the gaming system. Games will be purchased or leased, distributed on a media such as compact disk and loaded onto a local server. It may also be possible in the future to download new content directly onto the system from the gaming system provider. Regarding trade exhibitions, operators will always want to view games deployed exactly as the player will experience them in order to judge the viability for their operation."

Petr Mikoska agrees: "Trade exhibitions are and will remain important from the view of establishing of new business contacts and meeting many important people from different parts of the world and different fields of the industry. The sale itself is possible to realise through different channels but exhibitions have an unsubstitutable role in terms of effective presentation."

"Downloadable game content is unlikely to change existing sales models," concludes David Orrick. Rather new sales models are likely to emerge and gain favour. Exhibitions are events where people with a similar interest meet, renew acquaintances and are able to view and try first hand new product offerings. Beyond the fact that we arguably have too many exhibitions at present, which one only hopes changes at some time in the future), downloadable content will not be the death-knell of gaming exhibitions. Look at internet gaming, it is wholly 'virtual' and yet has spawned a host of trade exhibitions."

HOW LONG WILL THIS NEW TECHNOLOGY LAST?

SBG is a new technology and new technology tends to follow a rapid product life cycle. In 1985, a mobile telephone was the size and weight of a house brick, had a battery life of a couple of hours, a battery charger that required its own briefcase and cost over £1,000. I have just acquired a mobile telephone for my 14-year old daughter that is the size of a business card holder, has an all-day battery, is totally touchscreen operated and was designed by Prada. Her 12-month contract costs me £20 per month, so the handset cost me… nothing. The same applies to laptop computers, microwave ovens, DVD players, wristwatches, pocket calculators, the list is endless. So, the question is, how long will it be before today's

technological marvel becomes obsolete and over-priced in the face of faster and sexier technology breakthroughs?

As a provider of technology, Heber's John Malin seems well positioned to answer this vital question: "It is an absolute reality of life that as technology moves on it always gets faster and it always gets cheaper. With traditional gaming machines, if you set about designing a reel-based game, you know you're going to need. Then technology leaps to video and online connectivity and servers. Suppliers have to balance costs with price, price with performance and know what they are getting for their money. You have to put your stake in the ground and offer technology with built-in long-term value. Technology providers such as ourselves have to consider long-term continuity of supply. We cannot simply jump onto ever bandwagon of 'fastest' and 'newest'. SBG can be compared to PlayStation. Will support and content continue to be available for PS2 and PS3 when Sony is talking about nothing but PS4? Of course it will, because not all consumers can afford to simply switch to every new hardware model as it arrives. The mainstream customer base will always remain with what is proven, what is working for them. Smart manufacturers will incorporate future-proofing, easy upgradeability and longevity into their products because it makes sound business sense. Obsolescence will not be something operators should fear."

WHAT SHOULD OPERATORS BE LOOKING FOR?

With that thought in mind, we gave our experts the floor and asked them to identify the type of solution they believe operators should look to source and whether this should be an off-the-shelf complete solution from a single provider or a composite answer from a range of providers with specialist technical teams?

"Manufacturers need to provide operators with a solution that allows them to manage their gaming floors from one single and central point. Any system provided by a manufacturer not only has to do this, but it also has to integrate with the player tracking and accounting system already in place. The Bally goal is to provide a modular product that will not only integrate with machines from other manufacturers, but will also seamlessly integrate with any existing systems a casino already has in place."
Jeff Allen, Bally Technologies.

Jeff Allen gives the Bally perspective: "Manufacturers need to provide operators with a solution that allows them to manage their gaming floors from one single and central point. Any system provided by a manufacturer not only has to do this, but it also has to integrate with the player tracking and accounting system already in place. The Bally goal is to provide a modular product that will not only integrate with machines from other manufacturers, but will also seamlessly integrate with any existing systems a casino already has in place. We believe that existing hardware and systems providers are best suited to deliver such a downloadable solution to the industry because they already deliver the individual components that comprise the SBG solution. As with any new technology implementation, a support team from the operator will assist in this deployment."

According to John Bertakis, operators should also look at the wider opportunities presented in the financial sector. "Operators pending the market segment have the opportunity to secure central content servers, which on a CAPEX level will improve balance sheets, since next-generation technology can and will provide operators the flexibility of remote live downloads. Locations, or properties vary from segment somewhat, therefore, differentiating between competition will be a matter of which content to download at what times, and also internal reporting CRM choices."

"Operators should look at solutions that are based as far as possible

on standard network technologies, hardware and databases," added Aristocrat's Michael Koch. "This will allow them flexibility in how the technology is delivered and, just as important, how it is supported and maintained by the casino. At the terminal level, this model needs flexibility. Even if the terminals are based on PC technology the need to 'harden' them to comply with gaming regulations will render them unique and will therefore require development and supply by a licensed gaming machine manufacturer."

David Orrick places the case for AGI: "Let us deal with the last aspect of the question first. It is highly unlikely that any operator will be able to effectively implement and utilize a SBG solution without having an in-house technical team. Networks and servers have been around for long enough that we know beyond doubt that these things require ongoing management, administration and maintenance. As to the one provider or many providers question, depending on the size of the operation it is unlikely that an operator would want game content from only one provider. The business model on the provision of content only - without cabinet or hardware - is likely to go through some evolution before the industry settles on a viable model. At this time it would appear best for the operator to invest in a single SBG/DG solution that is supported by a number of manufacturers, each of whom can provide game content and gaming machines that are fully compatible with that core solution."

And Cyberview's David Purvis concludes: "In simple terms, operators should source a solution that is most suitable to their individual needs. A careful approach is essential and this will depend upon a number of factors, such as the

> **"There will be changes that will be expected but many more, positive and negative, that we won't know until SBG has a significant presence in the market. What can be expected is that game titles may not last long on the floor if they are not performing. This ability to quickly change games on an existing machine may lead to these machines having a longer floor life. From the operator's perspective, labour costs could be reduced substantially through use of a download product, but the true benefits may not be seen until casino operators have had the opportunity to work with a solution."**
> **Jeff Allen, Bally Technologies.**

number of locations, machines and type of market; the choice between local and/or wide are progressives; the number and frequency of content downloads; their flexibility requirements and of course, the bottom line with all such planning, their budget. We would recommend that any operator reviews the experience of the potential provider in existing real life operations. Many systems are fresh out of the laboratory and have never actually been battle hardened in field operations."

HOW WILL SBG CHANGE THE GAMING INDUSTRY?

Having analysed each of the individual elements that make up SBG/DG as we know it today, and bombarded you - the reader - with a myriad of information and opinions from some of those most closely involved, the qualitative question to conclude with requires everybody to cast aside their vested interests and sales scripts and address the issue that the is most easy to understand and digest. In simple terms, is downloadable gaming and SBG going to work? Is it going to change the casino gaming industry for the better and in what ways? And if getting there isn't going to be the smoothest journey in the world, then what are the obstacles that we should expect to encounter and prepare for?

"SBG technology will be the backbone of the programmable gaming floor," concludes Steve Allen. Casino operators will be able to make adjustments to their slot floor without having to physically touch a single gaming device. This will allow the casino to offer a gaming experience tailored to the demographic of its players and even offer customised gaming experiences to individual players. What will not change will be the need to offer compelling gaming content to the player and SBG and downloadable

technology will make it possible to offer more variety than ever before and even new forms of gaming such as communal gaming and competitive peer-to-peer play."

"SBG will offer another choice of format, another medium for delivering choice to a player," adds John Malin. At the moment, I think there is a lot of 'sitting on the fence' going on within the industry, especially geographically, but familiarity with the concept as operators come to understand the advantages of content flexibility will build acceptance. The new technology will generate new players in the same way that online poker plugged into a whole new player base, grew player awareness and brought that new market into the live casino environment. Home technologies such as Xbox live have brought network game play to a new audience, a new generation who understand and, most importantly of all, believe in and trust the technology. This industry is often rightly cautious and slow to embrace innovation, but other sectors have proved the concept and it is the future."
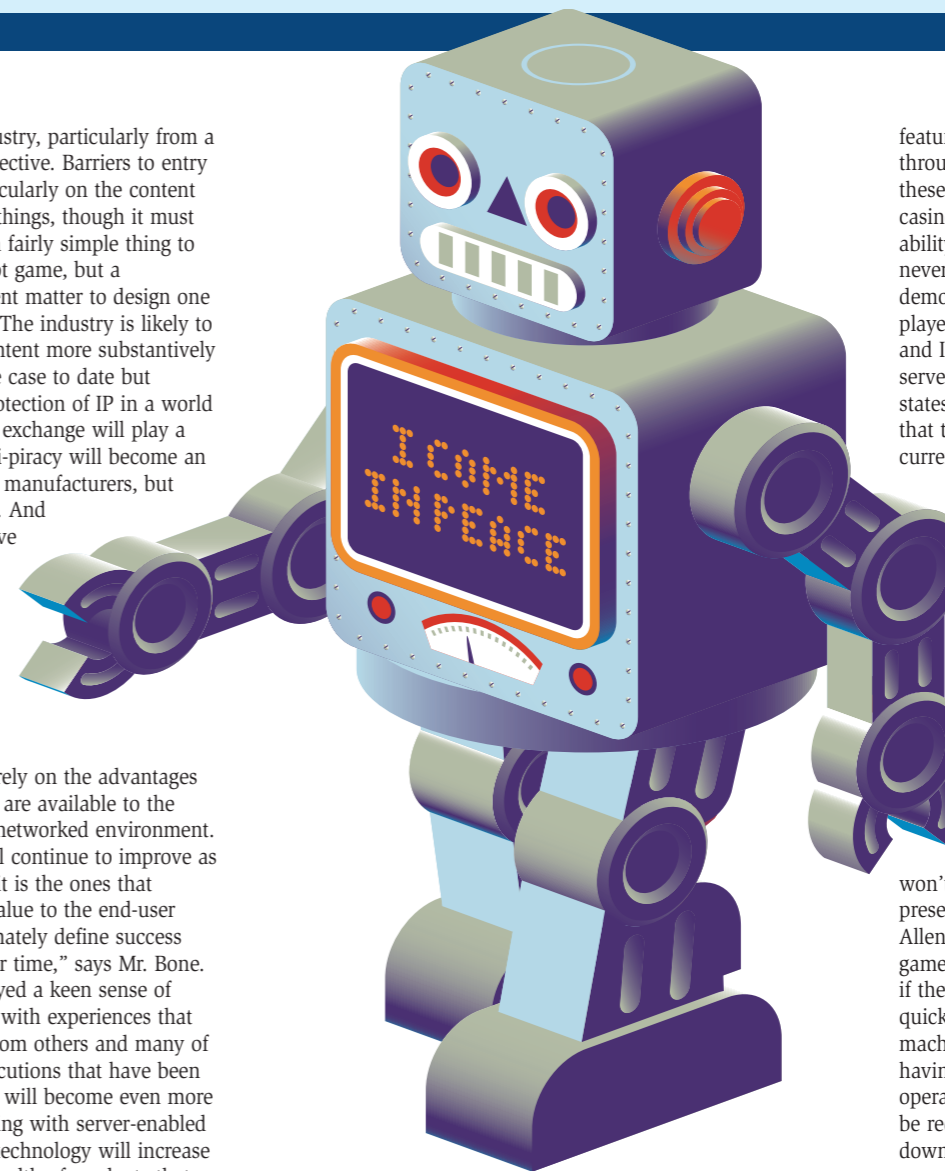
"At this time there is no indication that SBG technologies are likely to alter the actual games, other than the games evolution that would normally have taken place in stand-alone machines, says David Orrick. "The connectivity of the player terminals provides some interesting possibilities relating to communal play, whether through multi-player games or competitive tournament play. However, these opportunities are not new or unique to SBG. Linked gaming machines have been around since the advent of jackpots, online systems, player tracking systems, cashless systems and multi-players. Large scale adoption of SBG may lead to a low-key revolution in the

gaming industry, particularly from a commercial perspective. Barriers to entry are lowered, particularly on the content provision side of things, though it must be said that it is a fairly simple thing to design a video slot game, but a completely different matter to design one that is a success! The industry is likely to come to value content more substantively than has been the case to date but concerns as to protection of IP in a world of 'bit' and 'byte' exchange will play a growing role. Anti-piracy will become an issue not only for manufacturers, but also for operators. And regulators will have to be skilled in the realm of advanced technologies and the control and oversight thereof."

WMS' view is purely on the advantages in game play that are available to the player through a networked environment. "Technologies will continue to improve as they mature, but it is the ones that provide distinct value to the end-user (player) that ultimately define success and longevity over time," says Mr. Bone. "WMS has displayed a keen sense of providing players with experiences that they cannot get from others and many of the ideas and executions that have been recently deployed will become even more robust and engaging with server-enabled technology. This technology will increase the churn and breadth of products that will be made available and will further support the prospect of a "hit driven" business. With this increase in product breadth, there will need to be a focused effort on educating both the operators and the players with each individual game experience that is offered."

David Purvis believes that "SBG and downloadable gaming may do more to remove current gaming limitations than any other technological innovation seen in the last 20 years. Just as computer games have evolved from 'Pong' styles of play to today's multi-player, interactive and networked tournament games, so we all envision casino games evolving from the current reel-based slots and even video slots video to newer and more imaginative offerings. Going forward, games will no longer be restricted by processor or code size limitations prevalent in Eprom technology. Computing power today and in the future will allow designers and manufacturers to offer incredible innovations in creativity. New demographics will come into play as casino players change and more and more of them demand games that rival the look and feel of the video games they have

grown up with and know and love. Partnerships such as the one that Cyberview has established with Ubisoft for a casino version of Heroes of Might & Magic V will become increasingly frequent. In achieving all of this, the industry will have to rethink what we currently know as a 'game'. For example, as casino games are set to become more similar to their video counterparts, the use of strategy may become a key component. This may lead to games where the player needs to pay for units of time rather than the pull of the handle or the push of a button."

Videobet's John Bertakis is very bullish in his view of the changes that are about to take place. "As people change so do games, and so does technology," says Mr. Bertakis. "Sure you can have a standalone running for 50 years, but who will support onsite when you have remote central servers able to cover most of your efforts? Let's be realistic, SBG allows a true online capability, it offers information that's operators may utilise and provide much greater ROI than a standalone isolated device."

SBG is a technology with system based

> **What is so new about SBG is that the game is the system and the system is the game. The two are totally integrated. Manufacturers, test laboratories, regulators and operators can no longer just look at one place at a time. SBG future requires everybody to look at the game, the system and everything in between simultaneously. Each of these participants in the supply chain will play a critical role in realising the potential and future of SBG."**
> **James Maida, Gaming Laboratories International.**

features that will drive the gaming floor through player driven innovations. It is these innovations that will provide the casino's new and current players the ability to be entertained in a way they never thought possible. "WMS has clearly demonstrated our ability to provide players with the most engaging content and I don't see us slowing down as server-enabled technology proliferates," states Rob Bone. "WMS does not believe that the optimum solution for the future currently exists today, but flexibility is the main component of success and operators want options in how they can leverage this technology with their players. The future will provide product choices from various existing manufacturers that are "agnostic" and will interoperate together, but will provide product differentiation via the content and player experience."

> **"There will be changes that will be expected but many more, positive and negative, that we won't know until SBG has a significant presence in the market,"** believes Jeff Allen. "What can be expected is that game titles may not last long on the floor if they are not performing. This ability to quickly change games on an existing machine may lead to these machines having a longer floor life. From the operator's perspective, labour costs could be reduced substantially through use of a download product, but the true benefits may not be seen until casino operators have had the opportunity to work with a solution. Casino operators don't change machine volumes, line bets or denominations on a regular basis due to the labour involved. If they can do it instantly, how often will they choose to do it? What will be the benefits or drawbacks to such a change? Those questions will be best answered once significant market presence is achieved. Another more significant change is that different kinds of games can now be delivered. A server connected system allows for communication between individual gaming machines and other systems that will bring new kinds of games to players. Concepts like community gaming are possible with the high speed network and server control."

In his conclusion, Michael Koch specifically separates the two genres of downloadable gaming and SBG and is keen to emphasise that their impacts will be very different. "Downloadable gaming has very limited potential to change the industry," he says. "Essentially, all that is happening is that instead of physically altering or changing the game we do it automatically or

remotely. But it is still the same basic game. SBG has the potential to alter the industry substantially, akin to the way that iTunes has changed the delivery of music to consumers. Decreased costs of distribution in the music industry have resulted in a phenomenon called the 'Long Tail' whereby consumers seek and play music that is attuned to their specific preferences. SBG has the potential to create this 'Long Tail' effect in gaming, fundamentally changing the way content is developed and delivered and the way that operators pay for it. In particular this means that instead of the industry determining when a game is available to the player it will become the player's choice because all the games he or she prefers are available at any gaming machine at any moment. This way an operator will generate profit from games that have already far surpassed their peak lifespan in a traditional model, where games are taken off the floor and become unavailable even to the players who still want them."

So, there we have it. SBG and DG are here and because they are largely aimed at a new generation of players, they are here to stay. Like 'Big Brother' on the television, the traditional audience might not welcome it, or understand it, but they are not the audience of tomorrow. It may be frightening for some to think that in the casino of the future, when all the slot machines have been replaced by gaming terminals, these monuments to technological wizardry will recognise individual players, maybe by name, fingerprint, iris or even DNA profile. Having welcomed their unique customer, they will offer up their bespoke gaming menu, at appropriately pre-set denomination levels, and may then even process food and drink orders and offer tickets to a show that they already know 'their' player will probably enjoy.

Does this sound like 'Big Brother' has left the television screens and arrived in Orwellian fashion on your doorstep? The truth is, as many of you will know, that at last November's G2E in Las Vegas, IGT, the world's No. 1 slot maker, demonstrated a model that allows players who insert a membership card see a menu addressing them by name. Through a touchscreen interface, this player can order drinks to be delivered by a cocktail waitress, make dinner reservations in a casino restaurant or exchange reward points for show tickets.

This reality is the product of both technical and a commercial vision, the short-term benefits of which could be realised quickly. But that is not how it is going to be. The casino industry does not work like that, its history is littered with

ambitious creative types who ignored the lesson of the 'tortoise and the hare', raced ahead and suffered the consequences. It is the long-term benefits that really matter and as the pioneering operators begin to deliver the benefits of SBG their more cautious counterparts will 'kick the tyres' and begin to look at what will work best for them. The message coming out of the supply sector is very simple. These benefits will become very apparent, very quickly and in this particular case the pioneers will not be the ones with the arrows in their backs. SBG is here, it is happening and it is changing our world for the better… and forever.

THE VIEW FROM THE LABORATORY
WMS, along with a few others, has already submitted its commercial WAGE-NET products for laboratory review and approval. "We anticipate beginning field trials by late 2007 in effort to allow the products to the mainstream market by 2008," states Rob Bone. "All major manufacturers and operators are members of GSA (Gaming Standards Association), where common protocols are being designed to provide agnostics products and systems. In addition, regulators are already working together in providing requirements that are secure and that will meet individual regulatory requirements through a common approach. These efforts will allow a more efficient implementation of technology to meet regulatory and market requirements."

So how do those whose responsibility it is to clear gaming products for exposure to the paying public view the arrival of Server-Based Gaming? Here are the thoughts of James Maida, CEO of US-

"Technologies will continue to improve as they mature, but it is the ones that provide distinct value to the end-user (player) that ultimately define success and longevity over time. WMS has displayed a keen sense of providing players with experiences that they cannot get from others and many of the ideas and executions that have been recently deployed will become even more robust and engaging with server-enabled technology. This technology will increase the churn and breadth of products that will be made available and will further support the prospect of a "hit driven" business."
Rob Bone, WMS Gaming.

based Gaming Laboratories International:

"Imagine you are in your local grocery store. Food is on the shelves, milk is in the cooler, bread is on the bakery counter and the line of cash registers is up at the front. As a shopper, it is one thing if you cannot find your favourite breakfast cereal or brand of butter on the day you visit. You can always pick up your second choices. But what do you do if the cash registers are not working? The entire business grinds to a standstill. Today's registers are connected to the internet and must be online at all times or the store cannot function. If this is the case, the customers will leave and take their business to another store.

SBG in a casino can be thought of in the same way as the cash registers in a store. It must be online at all times in order to function correctly or players cannot put their money into casino's cash register. It sounds a risky scenario but the good news is that SBG is going to work. The industry's most brilliant minds have been working on it for many years. They are continuing to make further improvements and we all can look forward to great things to come from this amazing 21st century technology.

For all its fantastic possibilities, the reality of SBG is that it is like a nine-inning baseball game and we are currently in the top of the third inning. That is not a bad place to be at this stage of the proceedings. Developers are making incredible progress as they apply their skills to this new technology, in preparation for the decisive innings that are ahead.

What is so new about SBG is that the game is the system and the

system is the game. The two are totally integrated. Manufacturers, test laboratories, regulators and operators can no longer just look at one place at a time. SBG future requires everybody to look at the game, the system and everything in between simultaneously. Each of these participants in the supply chain will play a critical role in realising its potential and future.

There has to be complete industry-wide acceptance of the fact that SBG is a positive leap forward. And that this is a totally online system, stretching from the machines to the servers and back around again in a continuous loop. Connectivity must be maintained at all times. In simple terms, if your server is not working, you are out of the game.

For operators, delivering the SBG reality has to start with detailed analysis of the current casino floor configuration. Slot floors must upgrade their networks, in order to give their casino full broadband capabilities. Operators must ensure that every machine on the gaming floor has Ethernet connections and this may require hard drive upgrades.

Manufacturers will have to decide who makes game content and whose content can go on whose systems. There is a myriad of intellectual property (IP) issues that need to be addressed in terms of who owns what IP, who owns the patents and who will be licensing these patents. SBG poses a host of new questions for regulators that will affect every jurisdiction. They will have to rely on new expertise and develop a more intense way of regulating the gaming

environments worldwide.

From a testing standpoint, manufacturers must realise that because of its inherent complexity, test laboratories cannot test SBG with 10 or 15 engineers. Teams of qualified engineers specialising in distinct areas will be required. Comprehensive testing of SBG will require network security experts, system engineers who understand servers, specialists who understand the software and hardware on the terminal level and their interconnectivity. For all its exciting potential, SBG poses huge challenges to a test laboratory and will stretch even the most highly qualified. We have already seen some of these systems in action and the report card says "doing well". But we are only scratching the surface of what is possible. In the near future, players will be able to choose their favourite spot in the casino, choose from a menu of games and, if they so wish, compete heads-up against one another. Slot machine play will cease to be a single-game, solitary and isolated pursuit."

THE VIEW FROM THE ANALYSTS

Deutsche Bank Securities in the US publishes frequent reports on the gaming and gaming equipment sectors. As recently as last month, researchers Bill Lerner and Grant Govertsen updated their analysis of the development and potential impact of SBG. If further evidence were required as to the potential impact ahead, consider the following statement: "For the first time in memorable history, we believe that the gaming equipment sector is set to capitalise on the confluence of

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Kurt Quartier, International Game Technology.

two major events – global gaming expansion and a new replacement cycle. All in, we believe the unit opportunity will be nothing short of phenomenal, clearly benefiting all major gaming equipment suppliers. Collectively, we believe the combined replacement and expansion opportunity is over one million machines primarily between today and 2010/2011." Of this figure, they estimate that SBG replacement in the US alone will contribute 720,000 units, with a further 95,000 new units being introduced in Macau, Mexico, Singapore and the UK. The report goes on to explain that "with effectively the entire slot floor eligible for SBG replacement (approximately 900,000 units in the US) and assuming the SBG cycle follows the same curve as the TITO (cashless) cycle, we believe about 80% of these 900,000 units (or 720,000) could be replaced over a three to four year period beginning in 2008."

Lerner and Govertsen also report that "although concerns remain with respect to the timing of SBG, as well as the industry's commitment to it, we believe that SBG is both on track and is well embraced." They report that the Nevada Gaming Control Board's steering committee has an established timeline and scope of SBG. Unusually, the NGCB has included representatives from operators and suppliers on this committee, signalling that they are taking SBG seriously. This view is reinforced by their discussions within the industry and a clear timeline for widespread implementation has been laid out with impact no later than 2009 and contribution to earnings of gaming suppliers "beginning in mid-2008 as the machine replacement cycle heats up." If any icing were needed for this particular cake, it comes with the comments made following further meetings with the NGCB on the perceived difficulties surrounding the development of the technology and the fact that they describe it as "child's play" relative to other industries. "The reality of SBG technology is that it is nothing new and its various components are commonplace across a wide spectrum of industries. At the end of the day, SBG can simply be thought of as a series of wire-based transactions (financial and otherwise) routed back and forth over secure networks. We note that trillions of dollars are handled in similar transactions on a daily basis throughout the business world (e.g. financial markets, personal banking via ATMs etc) with complete faith in their security." In summary, and prepare to look ahead n a positive frame of mind right now, the analysts at Deutsche Bank believe that "all major gaming equipment suppliers should benefit greatly from what we believe will

be a massive SBG replacement cycle, augmented by global gaming expansion."

A DIFFERENT PERSPECTIVE

IGT is the world's largest gaming machine manufacturer. Every move IGT makes affects the entire industry and every challenge or change the industry experiences affects IGT. Speaking at the recent IGE Conference at Lake Como in Italy, IGT Europe's Kurt Quartier outlined the industry leader's stance on the evolution of SBG:

"IGT is looking at ways in the future to build tournament gaming into the software. It is a development that leads logically into server-based gaming. The technology for the networking of games is available right now. However, server-based applications are not as far ahead as some will have you believe. There is a lot of hype around this subject. There are hundreds of manufacturers saying they can do it, but only a handful that can deliver a server-based solution in a traditional environment.

One of the main benefits from the networking of games is slots marketing. SBG is not just about game download. It is also about improved marketing, using tools to analyse and predictive applications to extract information from slots. In addition, SBG enables customisation of bonusing and progressives, whereby you are not throwing any type of progressive at anyone who walks through your door. Operators can differentiate between players, offering different progressives for different customers. The optimisation of the floor is a great aspect of SBG, but it is only one aspect. Macau, for example, is about the VIP market, the VIP market and the VIP market! 70 per cent of revenue

comes from baccarat VIP. Slot VIP is another key market, but right now operators do not have the tools to market to this segment properly. SBG will give us the opportunity to differentiate player pricing. Not all people who walk through your door are created equal. SBG will offer everyone a lifestyle experience. They can have their game on a machine or tablet and walk around the casino with their own personal game, one that no other person is playing within that location. With SBG we can customise everything within the game that the jurisdiction will allow. The operator can choose whether it is based on coin-in or carded play; or offer different levels of mystery for different players. Promotional money can be award through SBG, with free games. When the SBG application understands the maths of the game, we can really start playing with the game design itself. All of this is possible; the trick is managing it properly."

A SLIGHTLY DIFFERENT VIEW

As operators look forward to one central server capable of taking care of all SBG machines regardless of manufacturer, Atronic is striving to achieve just that with their new SAG (Server Assisted Gaming) solution. With the increasing development of downloadable technology emerging, SAG is fast becoming a reality. Although still in its infancy SAG will allow operators the flexibility to vary game content such as the configuration, paytable figures and denomination. They will also be able to change games to suit the demographics on the floor at any time, create themed promotions, use it as a marketing tool for bonuses, or eliminate redundant games and replace them immediately with the latest games. All this will be tailored to the size and

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>
> **John Taylor, Atronic.**

structure of the individual operation. Atronic is looking to create a system that alleviates machine downtime in a communication breakdown between the server and the individual machines, as can happen with current SBG products. As such Atronic is working to develop a fully integrated solution that will not only provide for easier management of game machines but also increase the gaming experience for the player. Atronic's Product Manager for Server Assisted Gaming Solutions, John Taylor says: "Atronic is committed to being in the first tier of game machine manufacturers to offer a server assisted solution to the market. We see this as a long term investment for all concerned."

SAG differs from existing SBG solutions in that the server or group of servers assist in the management of the gaming machine. The machine itself does not change from how we today view a Class III machine. In this case if communication between the server and the machine is disrupted normal functionality of the machine is not affected, eliminating lost revenue due to downtime. Additionally, SAG solutions allow game determination to remain on the machine, in keeping with certain specific jurisdictional regulations. A complete SAG solution will consist of both the gaming machine as well as the system components.

The Atronic SAG solutions are developed using the GSA standards and with the GSA interoperability certification, the industry will be assured of a product that will function as a complete system regardless of products sourced from different manufacturers. This means it will be possible for other game suppliers to integrate content and hardware into the system so long as they use the same GSA protocol standards and pass the GSA interoperability tests.

John Taylor adds: "It is our belief that all successful solutions will be based on the GSA standards for communication between systems and the game machines. The basic technology coming into the gaming industry has been used by the computer industry for 20 years. It is nothing new and has been proven over time. We see the benefits of SAG solutions providing a more dynamic gaming floor that can be customised to player dynamics. Although there must be benefits to the operator, the player must also see benefits in order to ensure player acceptance of the technology.

"As the trend moves towards server-assisted gaming we are sure to see not only current casino gaming industry content providers racing to lead the way but also new market entrants from other sectors. At Atronic we are committed to providing a fully functioning solution of benefit to operators and players."