ONLINE GAMING

Exploring Strategies for GSA

Online Gaming
A Strategy for GSA

September 2012

Change is the adoption of innovation.

Key Facts

Our industry is experiencing a moment of change in the form of online gaming.

GSA can take a leadership role in driving industry collaboration thereby avoiding the chaos that will result from industry inaction.

This report is aimed to lead GSA to action and should play part in so doing. It has a case to present, one that will act so as to participate in the thinking and decision process that follows. GSA mission reflects the needs of its stakeholders that collectively have a significant role and responsibility in the gaming industry. Their products, services and operations shape and influence the industry in many ways, but there are moments when the industry throws back a challenge that in turn will influence and reshape them.

Creating benefits for gaming industry stakeholders. Manufacturers, suppliers, operators and regulators stand to gain from GSA

A New Concept

Serving the Industry for 15 years

Introduction

Our industry is experiencing a moment of change in the form of online gaming. Online Gaming does not simply refer to games played over the internet, but to a new concept whereby the player is anonymous who can be anywhere.

Many stakeholders have been forced to embrace it as it inevitably encroached into their markets. That initial impact is now starting to fade into adoption. As the understanding of the concepts becomes clearer, stakeholders are realizing the business potential of these new trends. The next step is to take full control and lead the industry forward to more innovation and value.

GSA has been developing technical standards for the industry for 15 years to bring interoperability and drive innovation. Millions of dollars have been spent on research and development by manufacturers as well as purchased equipment by operators that are based on GSA's standards. For these stakeholders it is critical that GSA continues to maintain and implement the standards, bringing them up to date with current technologies and the needs of the industry. As manufacturers, operators and service providers are now involved in online gaming, GSA needs to explore on how to position itself for the advantage of its members and for the benefit of the industry as a whole.

The assignment brief outlined the following requirements:

1. Complete a report before the end of the initial 2 months period that addresses the following issues:

   - Identify opportunities for standardization in online gaming

   - Identify the role GSA can play to support regulators

   - Identify the challenges/pain points that online gaming companies currently have and how GSA can provide value for them

   - Identify membership growth opportunities from online gaming companies

   - Propose an execution strategy for GSA to take a leading role in the online gaming space and identify potential partnership/alliances

   - Explain the role of existing industry trade groups active in online gaming and possible roles (RGA, GREF, IAGR...)

   - *Identify potential members/parties that are willing to individually dial into a conference call with the board to express the challenges and interest in working with GSA.* [1]

   - *Invite online gaming companies' management through teleconference calls to address the board during the strategic meeting session so they can articulate their needs.*

2. Assist GSA in putting a plan together to address the findings of the report, following the board's strategic direction/guidelines.

   - Attract online gaming companies as GSA members and manage the technology aspects.

The assignment was started on the 15th of July 2012.

Report Structure

The report is divided into four main sections: **Introduction**, **Online Gaming**, **Findings** and **Strategy**.

The **Introduction** is this section. The **Online Gaming** section is about history and present landscape of the industry.

The **Findings** section defines online gaming and what falls within the scope of this report, followed by a Strategic vision with critical objectives that can influence GSA's role in the industry

Most readers of this report have a technical background so certain references to technical details are without further explanation. Historic technical information has been included to keep the report interesting, but a great effort has been made to keep the structure of the report away from being a technical reference book.

In the first section, where the subject is a circumstance to be taken into consideration, it is followed by a Findings Section outlining the actual findings. In this way relevant topics are discussed within their context.

Limitations

Online gaming is a very broad industry with many different business models. The findings in this report focus only on that part of the industry that offers regulated real money gambling over the Internet.

Some GSA members may have a more diversified product offering that they consider as part of online gaming (for example free-play or social gaming). New modes of gaming are taking over in markets where traditional online gaming is prohibited and/or where social gaming is shifting gameplay towards casino games. Furthermore the convergence of land-based systems and online gaming systems is going to bring further changes to online gaming industry.

The report takes into account all that is happening in the gaming industry, but it is impossible to predict a strategy to establish standards in sectors that are still in a phase of experimentation. It is more important and useful to GSA members to explore ways how to build a strategy that keeps it actively involved in the development of new technologies and examines proactive approaches to bring knowledge sharing and collaboration between the main players that are developing new generations of gaming technology.

> GSA needs to explore how to position itself to the benefit of its members and the industry. GSA can take a leadership role in driving industry collaboration thereby avoiding the chaos that will result from industry inaction. - P. DeRaedt

Online Gaming

New technologies are the catalysts for the global change in gaming policy.

Key Facts

3 Gross revenues for global eGaming sector increased by 3.4% to reach €24.6bn in 2011.according to H2Gambling Capital.

5 Just as Video Lottery Terminal, keno and scratch cards changed player gambling habits industry, new technologies are creating new generation of players

What is Online Gaming?

Online Gaming has been around for 18 years yet there is no proper definition of what it is. Worse, the industry has a clutter of names – igaming, egaming, remote gaming, remote gambling, and interactive wagering - not to mention the hyphenations, refer to the same thing.

A good description of online gaming is:

*Playing a **game of chance**[1] on an electronic device that is connected remotely to a gaming system via a digital communication network. All events concerning player management, financial transactions and game management happen online without any physical interaction between the player and the operator.*

There are many forms of online gaming. The earliest and still predominant type of online gaming is someone using a home computer connected to the internet to play an online game that is managed by a server located far away from the player. With the widespread adoption of mobile devices, the location of the player is not fixed anymore which presents new situations such as the player may in a real casino, playing an online game on a mobile device that is connected to a system which is located inside the same property.

Some jurisdictions[2] license dedicated gaming devices under online gaming legislation. In this case the gaming device, normally a plain PC with a web-browser, is located in a licensed premises but gameplay is carried according to the online gaming regulations.

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[1] Game of Chance has the same legal meaning according to the jurisdiction legalizing online gaming.

[2] Italy Licenses a special public dedicated gaming terminal called "Punti Remoti" (remote terminals. The UK Gambling Act also defines "Dual purpose" PC.

For a gaming activity to qualify under online gaming regulations[3], it must fulfill the following *fundamental* requirements:

1. Involves only **Non-Cash Transactions**:
   - Payment methods are similar to ones used for ecommerce, but with certain modifications in the payment process.
   - In some exceptions, an operator may be authorized to transact in cash as long as the transaction is happening directly with the player in a licensed premises (Nevada is a good example). In such cases the operator must observe Prevention of Money Laundering regulations for cash-transactions.

2. A player must first register with the online gaming operator to open a **Player Account.**

3. Every account has a unique username that identifies the player.

4. Every time the player returns to play, he needs to log into his account, using his username and a robust authentication method.

5. The operator must identify the player and carry out verification and suitability checks before providing him with a Player Account. This manual process is called **Know Your Customer Procedure (KYC).**

6. A player must make a real-money deposit into his Player Account before he can start wagering.

7. A gaming session must take place in a safe and secure technical environment.

8. The game must exhibit the three fundamental elements of gambling: a consideration, a Game of Chance (and/or skill, depending on the jurisdiction) and a Real-Money Prize.

9. When a player requests to withdraw cash from his Player Account, the operator carries out a manual verification to ensure that the funds are being transferred into a legitimate bank account belonging to the player.

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[3] Regulations vary from jurisdiction to jurisdiction with some jurisdictions being more demanding than others. The features mentioned here are common to all regulations.

History

The historical context of online gaming is relevant to understand its phenomenal growth, why governments initially looked upon this industry as a threat to their legal gambling systems, and what measures are being taken to control it.

The origins of online gaming date back to 1994 with the first online casino ladyluck.com, but it was the sports books that brought widespread adoption of online gaming with the first well-known site being Intertops.com launched in 1996. The industry has its roots in illegal gambling, operated by people associated with criminal activities who used the internet as a means of keeping a physical safe distance from the law.

Poker was the "Big thing" in online gaming. It originated in 1994 as IRCPoker, an Internet Relay Chat, free-roll game using a curses-based front-end. It was a popular game but suffered from limitations

IRC Poker

Online lotteries were not quite a successful business, but online scratch cards are fairly popular.

inherent in the IRC protocol. IRCPoker used a script that automatically shuffled the cards, dealt and responded to players' requests.

Planet Poker launched an online poker network in 1998 using a persistent session client that connected to a central server. It also introduced the concept of a 'lobby', a central area listing tables in session. Countless enhancements have been made to the game of online poker, but the basic features and software architecture implemented in the first poker network are still in use today. Online poker was most popular in the United Sates. The biggest poker rooms counted some 50 million US players by October 2006, almost 80% of the global online poker market. After 2006, with the introduction of the Unlawful Internet Gaming Enforcement Act, a lot of operators withdrew from the US market but the numbers still held strong until April 2011, when all poker sites ceased operating on US territory. After 2006 most operators marketed hard to introduce poker in Europe and Asia, where it is now its most popular regions.

Around 1998, the brick and mortar British bookmakers started to offer online betting. The bookmakers were licensed by the Gaming Board for Great Britain (the predecessor of the Gambling Commission) that enforced a strong regulation on the conduct of gaming. Instinctively the bookmakers brought those regulations into their online business and in turn won players' trust. As players became more aware of their rights they shifted to operators who could be trusted. By 2000 operators started to adopt (or claimed to adopt) internal control procedures.

In 2000, a British company, flutter.com, came up with a new concept to back or lay a bet. Betting exchanges became a big business in the UK, Ireland and other Europeans countries. Betfair, the world's largest betting exchange, has six times the volume of daily transactions performed by the London Stock Exchange.
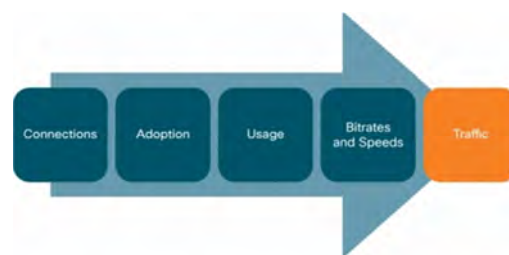
Industry Size and Growth

In the last 12 years the industry experienced ups and downs but generally continued to grow. Various sources publish statistics on the size and growth of the industry, but none can be taken seriously, although some may use better intelligent guesswork than others. There is no factual data coming from the industry, including that coming from regulators, on turnover and revenues. In rare occasions where official data has been published, the figures are toned down or combined with other industries to lessen the impact on those who oppose online gaming. Only in the last two years more accurate statistics are available from markets where online gaming is regulated within borders but these make a small percentage of the global industry and there is no guarantee that players are not playing on foreign sites.

The size and growth of any online industry can be crudely, but effectively measured in terms of the data traffic it generates on a global scale. Cisco Systems have created a methodology to forecast internet traffic growth based on the number of connections available, the percentage of those connections used for internet-based applications, the time used and their connection quality and speed.

Source: Cisco Inc.

It is possible to use the same methodology to measure the growth and size of the online gaming industry, only that in this case the process is quite simpler. All major gaming systems serving .com sites are located in six datacenters around the world - Kahnawake (Canada), Malta, Isle of Man, Guernsey, Gibraltar and Curacao. For the exception of Malta, these countries have a negligible domestic internet market, so all the data traffic coming in and out their international fiber links belongs to online gaming. In the case of Malta there are 85,000 domestic ADSL modems with an average speed of 2Mbps so having a reserved bandwidth of 1.6GBps. The table below shows the bandwidth used by online gaming companies in these jurisdictions.

This data does not take into account connections for internal markets such as France, Italy, Quebec and British Columbia, but the number of users in these jurisdictions is officially published.

Malta	4.5 Gbps
Kahnawake	9.6 Gbps
Curacao	1 Gbps
Isle of Man	2 Gbps
Guernsey	2 Gbps
Gibraltar	1 GBps
Total	~20GBps

Internet Connectivity

In 1995, 1 in 10 Americans had access to the Internet which compared fairly better than Europe where 1 in 100 had access. North America was the first region to adopt online gaming. Initially sports books that became more popular than online casinos. This is due to the graphic performance limitations in PC in the mid 90's that did not enable the simulation of slot machines as in casinos. Moreover internet connectivity was still based on slow, dial-up connections having a maximum speed of 128Kps. Persistent connectivity protocols, such as SSL, appeared in 1998, paving the way to secure data connections that was critical for games that required to establish a persistent session with the gaming server. On the other hand sports books implemented the "POST" method, available in the HTTP protocol to place bets.

Connection quality determined the location of the servers in the early days of online gaming. Servers were moved around jurisdictions like a game of chess. An industry thumb's rule states that packet latency between the player and gaming server must be less than 100ms for online poker. As the biggest market for online poker was the US, all poker systems were located north and south of the US borders. Transatlantic latency is almost 100ms so it is impossible to serve online poker from Europe. In 2006, when online gaming became

illegal in the US, Europe became the biggest market for poker with the result that the servers shifted to Malta, Isle of Man and Gibraltar (excluding those that continued to serve the US market).

Adoption and Usage – Players' Trust

Adoption is influenced by players' trust that has always been a critical issue for online gaming operators. Players' trust manifests in two aspects of online gaming:

1. The processing of Funds
2. Fairness and transparency of games

In the early days there were no online payment methods so players had to call an operator's agent located somewhere in the Caribbean to give their credit card details and consent to transfer funds. Agents never asked the players where to send the funds if they won. Many players tried in vain to recover their winnings only to discover that the operator sometimes did not even have an office or an address.

Secure authentication technology became available in web browser in 1998 and with it came secure online payments. Moreover credit card companies started to implement security features such as CVC, secure 3D and Verified by Visa. Additionally they put up more stringent rules for online merchants and offered card users the right of recourse on services. This changed the way banks treated merchants that offered high risk online-services. Operators were required to ring fence funds that the bank had access to in case purchasers filed complaints against merchants, introduced the rollover retention fund and charge backs. The effect of these changes saw the introduction of a new intermediary in the industry – the payment processor or payment aggregator. Paypal was one of the first payment processors, but the online gaming industry had its variants – FirePay, Neteller and Moneybookers. In effect these payment systems shrouded the transfer of funds from

Connection quality determined the location of the servers in the early days of online gaming.

financial systems. The US Department of justice indicted both FirePay and Neteller.

With the introduction of secure payment methods Players were at least guaranteed back their deposits but not their winnings. Nonetheless secure online payment methods improved players' trust and were a critical factor in the widespread of online gaming.

The question whether online games are fair and transparent is still a debatable issue in online gaming. In its September 2012 issue, Forbes magazine carried out an article about a new online gaming site that had discovered a method to demonstrate 'provably fair' games rather than 'probably fair'.

Technical issues also affected adoption. The strength of SSL encryption technology depends on its bit-length. In its first implementation the bit-length was small enough to be cracked by readily available computing power. Hackers targeted gaming systems that were vulnerable, many times to steal players' details and their credit card details. Player details have a high acquisition value in the gaming industry and fetch considerable cash. Games requiring highly secure and persistent connections were developed as downloadable applications that used proprietary encryption algorithms. Many operators, especially for poker, still prefer a downloadable executable player interface over a web-browser

based technology for the same reasons. Moreover the executable application is still the favorite method of play among players especially the pros.

The problem with an executable is its limitations to connect to different services or games. In the past this was not an issue since gaming platforms used a monolithic architecture whereby the player interface executable was simply a thin client at the top of the stack. This all changed when the B2B model was introduced after 2006 and operators wanted to bring content from other providers who used their own executable or used different technologies such as Flash and JavaScript. With the introduction of 'seamless wallet' the communication issue worsened between systems and clients. The integration of any system with another system is becoming a cumbersome operation with lengthy delays in repeated testing and quality assurance.

The monolithic architecture has some benefits related to performance and certain regulatory requirements, but as more new technologies make their way into gaming, there is a need to break up the architecture into smaller, more manageable systems.

Online gaming platforms are still based on monolithic architectures.

Popularity

On a global scale, online gaming is played in all countries having religious tolerance towards gambling.
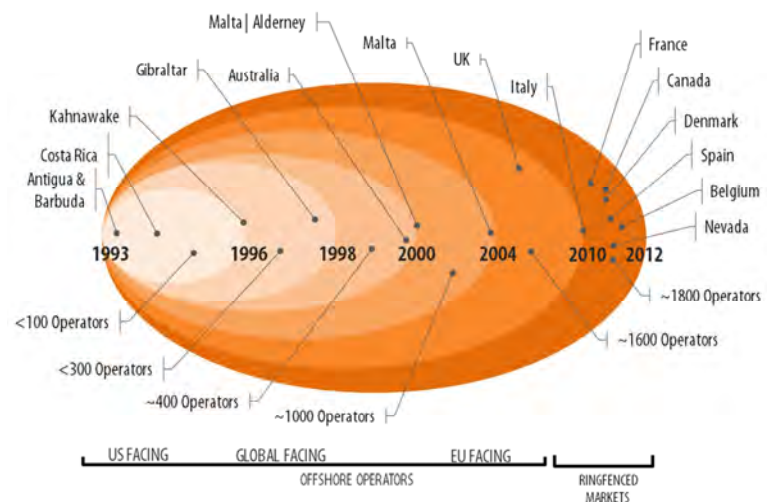
What makes online gaming so attractive? There are two main reasons – convenience and 'value for money'. Online gaming brings the game to the player, anyplace, anytime. The player does not need to travel to a particular location to play. In a real casino the experience is created by the operators who have to attract players to their locations. Once a player gets over the first time experience, he turns to the excitement factor which is contributed by the win. In online gaming the experience is personal, created by the player himself. Some argue that casinos are great places to socialize and that is true, but the new generations are socializing more online and are peer influenced through the social networks when looking out for entertainment. Besides, online gaming is a great way to socialize and making new friends, particularly if playing poker or bingo.

Players get a better value for their money playing online compared to playing in land-based gaming establishments. This is a false perception that is very hard to convince players otherwise. Online gaming operators pay little or no gaming tax, are based out of jurisdictions that promote foreign investment by lowering corporate tax and offer financial incentives, have no legal overheads such as certification and on-going auditing and generally use a business model where the supply chain actually competes to for the

business. The overall effect is that online gaming has better net margins that can be pumped back into the game in form of higher winnings, bonuses and rewards. Online gaming operators argue that is not true as they employ high skilled staff resulting in high salary outlay and their gaming systems are expensive to develop and support. Whilst the latter argument may be true the fact that employees demand high salaries is due to the fact that online gaming operators are considered high-risk employers and are based out of small nations where skilled resources are very limited. With the introduction of regulated markets within borders, online gaming and land based gaming will be at par. Interestingly early data shows that players are happy to receive a little bit less to play as long as their deposits and winnings are protected legally

Legislation

Antigua and Barbuda established the Directorate of Offshore Gaming in 1993 under its financial services authority. A year later the directorate published the Interactive Wagering Regulations under the International Business Corporation Act to accept online gaming operations. In 1996 Kahnawake, a tribal nation in Montreal, Canada, offered a datacenter facility to host online gaming, but no regulations. Gibraltar started to accept British bookmakers under existing gaming law in 1998 to conduct online betting. In July 1999, Kahanawke published its *Regulations concerning Interactive Gaming*. On February 2000, Malta became the fourth country to publish online gaming regulations which were restricted

to offshore betting only. In 2001 Isle of Man and Alderney joined the group. Until then no other country had a gaming policy with regards to online gaming. Many countries considered an automatic illegality since it could not be licensed under any present law.

It is important to understand why online gaming is significant to the economy of small jurisdictions. Small jurisdictions depend heavily on the services industry for generating inward investment. With the exception of Kahnawake, all of the jurisdictions have an offshore financial services center the benefits that offshore corporations bring to their economies. Online gaming brought additional forms of benefits that would have a far greater positive impact on their economies. By cleverly articulating the legislation to oblige operators to locate assets and resources in the jurisdiction they managed to create a new economy. In some cases, online gaming has become the major economy in the country. In 2008, 7% of Malta's GDP was attributed to online gaming, the highest in any country (the EU average is 1%).
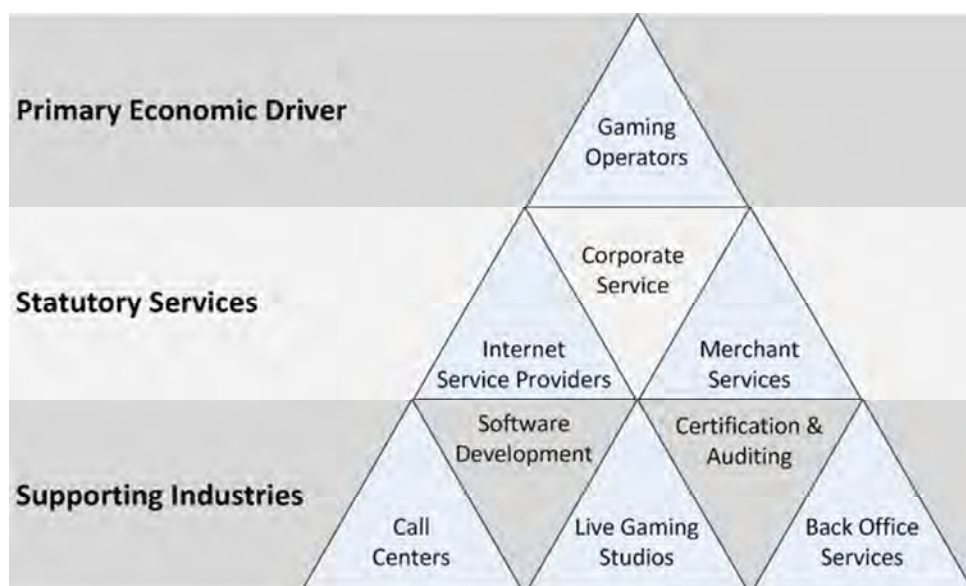
The figure on the rights shows the industries created by online gaming. The primary economic drivers are the gaming operators who are attracted to the jurisdiction by incentives such as low or no gaming tax and corporate tax holidays. The regulations stipulate that certain services, such as accounting, banking and merchant services have to be with local suppliers. Moreover

the location of the servers must be within the jurisdiction. This demands the services of datacenters and bandwidth. Small countries suffer from bandwidth capacity due to their insularity and size. Subsequently they have bad internet connection and the cost of bandwidth is relatively high. Online gaming is a huge consumer of internet bandwidth so it helps the local economy having better connectivity at a much lower price.

As the servers are a critical part of the business, the operator has to establish a physical presence in the jurisdiction in order to support it. Automatically this requires the hiring of highly qualified personnel and assistants. As the operator grows so does the needs and more functions

are added to the original structure. In June 2012, the Maltese Finance Minister declared that the online gaming industry in Malta employed directly 5,000 people and another 2000 indirectly. For a country of 400 thousand inhabitants with a workforce of 160 thousand, this is a pretty significant number.

Online gaming requires a multitude of standards across the various domains not only ensure consumer protection, but to allow for the creation of a unified global solution and enabling continued technology innovation.
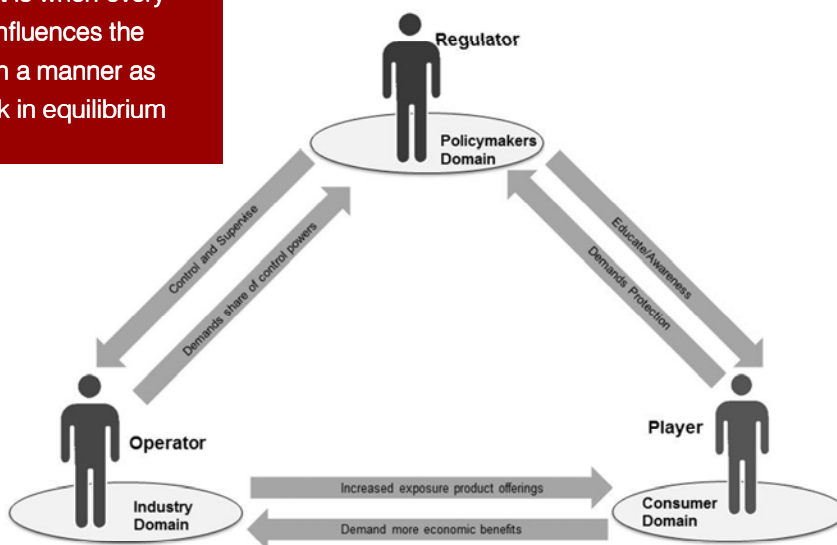
Industry Stakeholders

Online gaming has three main stakeholders: Regulators, Operators and Players.

Regulators make part of the **Policymakers Domain** that includes the government (State, tribal and Federal), other regulators, agencies, the judiciary and all those involved in public policy.

There are several different players within the **Industry Domain** including operators, manufacturers, testing laboratories, service providers, trade organizations and unions. Additionally the online gaming industry depends heavily on service providers such as data centers for hosting and bandwidth, payment gateways for payment processing, verification systems for Geo-location and player identification, call centers for player support and affiliate networks for marketing. There are also service providers that provide services at are statutory obligations under national regulation such as secure data vaulting services that are used in France and Spain.

The **Players Domain** includes family members, player protection organizations and problem gambling entities. Most jurisdictions require that staff employed by online gaming companies is trained on responsible consumption of gaming by an approved player protection entity. Gamcare in the UK offers problem gambling awareness programs for international operators. G4 in Scandinavia and Adictel in France carry out work similar work in native languages which is critical to reach a problem gambler.

> The ideal environment is when every stakeholder domain influences the other domains in such a manner as to keep the framework in equilibrium

Trade Organizations

Currently the online gaming industry does not have a recognized global entity that represents its broader interests. In the past, efforts to bring the industry together had failed due to the fact that many operators preferred to stay out of participation from any initiative that would bring them out in the open. The few groups that exist today are mostly public policy advocates for the industry.

National Associations

Some of the larger gaming jurisdictions have organizations that represent the interests of the local industry. **Costa Rica Gaming Association** (CRGA – www.crga.net) represents the Costa Rican operators. The **Antigua Online Gaming Association**, AOGA is a nonprofit trade organization consisting of select remote gambling operators who are licensed and regulated by the Government of Antigua and Barbuda (www.aoga.ag).

In Malta the operators and service providers belong to the **Malta Remote Gaming Council** (MRGC – www.mrgc.com.mt) who is actively involved with the Gaming Authority and Maltese Government to protect and advance the country's reputation within the European Union.

Interactive Gaming Council

The North American operators set up the Interactive Gaming Council (IGC) in 1996, originally to lobby for regulation in the US. As its members expanded into new markets, IGC took a more global role becoming the industry's biggest association. In March 2000 the organization transferred to Vancouver due to fears that the US Department of Justice was after its members. Some of it members continued to operate on the US market after UIGEA in 2006 causing many operators to distance themselves from the organization. Although efforts were made to restore IGC's reputation by changing its strategy to focus more on the European markets, it remains mainly supported by Canadian un-licensed operators and their service providers. It still acts as a policy advocate for the industry but its main function is to act as industry information resource for its Members.

E-COGRA

E-COGRA (eCommerce and Online Gaming Regulation and Assurance – eCogra.net) was established by the Kahnawake operators in April 2003 in response to the pressing need for the online gambling industry to systemize strict, universal online casino regulation standards and to bring more overall transparency to the online gambling industry as a whole.

The UK bookmakers were the first to establish standard practices on the European side that resulted in more fair and transparent gaming to the players. Since certain jurisdictions were not equipped with proper regulatory procedures to safeguard responsible gaming and did not implement player protection mechanisms, players began showing concern and migrated over to the new operators. E-cogra was originally set up by two operators –Microgaming and Casino-on-the-Net (888), together with PwC South Africa. Later on Party gaming, Ongame, Playtech and other major operators located in Kahnawake became e-COGRA

members. The operators voluntarily submitted their systems to tests carried out by e-COGRA to verify that games were fair. The guidelines established by e-COGRA, known as General Accepted Principles (GAP), were regarded as one of the best technical standards in the industry.

A management buyout in 2005 turned eCOGRA into an independent organization. Moreover, PwC, fearing its involvement with online gaming operators, opted out and its staff joined the new organization. Since then e-COGRA has been focusing on creating technical standards and certification procedures. It does not represent the gaming industry in its former capacity and is an approved certifier in many jurisdictions as for online gaming.

Remote Gambling Association

RGA's role is to provide the industry with a single voice on all the issues of importance to regulators, legislators, and key decision makers around the world. It advocates for a regulated and non-discriminatory environment for on-line gaming globally. Its effort within Europe call for freedom of choice to consumers, and fair and open market access for all companies licensed or legally established therein .

RGA encourages social responsibility and high standards of probity and integrity within the industry through the development of codes of conduct.

In 2005 the Department of Culture, Media and Sport (DCMS) in the UK published the Remote Gambling Regulations. Most operators on the UK market acquired a license and moved onshore. The Remote Gaming Association (www.rga.eu.com) to represents their interests with the government and the European Union and lately the RGA has expressed its interest in the US market.

The RGA is based in London and Brussels having 34 members, mostly operators and software suppliers licensed in the UK, but also licensed in other jurisdictions, so it does bring it to an international status.

The European Gambling & Betting Association

The European Gaming and Betting Association (EGBA) is a very active organization on the European front. The EGBA was established to represent the interests of the industry within the European Union. It is based in Brussels and is a strong advocate for public policy for the industry. Today there are only six members in the EGBA, but they are some of the most significant operators in Europe. The EGBA continue to struggle for the complete harmonization of cross border gaming in the European Union and has commissioned many studies on different aspects of the industry. Every year the EGBA organizes the Responsible Gaming Day http://www.responsiblegamingday.eu, bringing together industry experts to discuss issues on responsible consumption of online gaming.

European Committee for Standardization (CEN)

The European Committee for Standardization (CEN) is a non-profit organization set up under Belgian law. Through its services, it provides a platform for the development of European Standards (ENs) and other consensus documents.

It is the only recognized European organization according to Directive 98/34/EC for the planning, drafting and adoption of European Standards in all areas of economic activity with the exception of electrotechnology (CENELEC) and telecommunication (ETSI).

CEN works in a decentralized way. Its Members operate the technical groups that draw up the standards; the CEN-CENELEC Management Centre (CCMC) in Brussels manages and coordinates this system.

The Members of CEN are the National Standardization Bodies of 32 European Countries (European Union + European Free Trade Association + Croatia+ Turkey).The work within CEN is performed in Technical Committees (producing European Standards and Technical Specifications) or in CEN Workshops (producing CEN Workshop Agreements).

In May 2007 the Directorate of Internal Market Services of the European Commission established the EU Regulators Workgroup on Cross Border Gambling to investigate a common policy for online gambling in the EU.

The full document for Responsible Remote Gambling Measure can be downloaded from the CEN website

ftp://ftp.cen.eu/CEN/AboutUs/Publications/Gambling Measures.pdf

Throughout this process a number of initiatives were identified. One initiative is. the establishment of a Workshop Agreement (CWA) on Responsible Gaming Policy.

The CWA on Responsible Remote Gambling Measures (CWA 16259: 2011) only covers online gambling and is based on more than 600 specific contributions made by industry stakeholders and submitted for public consultation. The process was led by e-COGRA chairman, Mr. Andrew Beveridge, and it includes a total of 134 implementing measures that are aimed at attaining the following policy objectives:

This CWA has the power to inform policy makers at national and EU level of the standards needed to maintain a responsible, safe and secure remote gambling environment.

The CEN will now oversee the implementation of the standards. Currently, further standards are being considered that will eventually be incorporated at National and EU levels.

The Principles of the CWA:

- The protection of vulnerable customers

- The prevention of underage gambling

- Combating fraudulent and criminal behavior

- Protection of customer privacy and safeguarding of information

- Prompt and accurate customer payments

- Fair gaming

- Responsible marketing

- Commitment to customer satisfaction and support

- Secure, safe and reliable operating environment

Regulators Organizations

Gaming Regulators have various organizations at international and regional levels. The main function of these organizations is to serve as an information resource to regulators. They have no special powers to enforce policy or directly influence legislation. However they play a critical role in influencing regulators during their decision making process. There is a certain degree of co-operation among regulators via these organizations. It is most likely that if a particular jurisdiction is considering a new piece of legislation it would request assistance from other jurisdictions having similar experience through the co-operation programs set up by these organizations.

GSA has participated in various workshops and sessions organized by regulators to inform them about the technical standards. GSA is highly regarded by these organizations who value its independence and work ethics.

Online gaming has been on the regulators agendas since 2002, but it has become a priority item in the last four years. The major concern for regulators is that they are not sufficiently educated on the sector and feel helpless when faced with the rapid technological advancements.

As regulation policy is changing in many countries, regulators are more ready to listen to the industry. They are pushing their organizations to seek input from the industry domain on common issues involving gaming.

GREF – Gaming Regulators European Forum

The Gaming Regulators European Forum, or GREF in its abbreviated form, consists of representatives from gaming regulatory organizations throughout Europe. GREF was founded in 1989 as an association of gambling regulators

- to provide a forum in which European gaming regulators can meet, exchange views and information and discuss policy on gaming matters; and

- on special occasions and with the agreement of participants represent the different views of European gaming regulators and also provide a central point of contact for enquiries directed at them from authorities or related organizations in Europe and elsewhere.

GREF has four Working Groups on specific issues. One of the workgroups deals with technical matters included standards and online gaming. The workgroup meets regularly and has been instrumental for bringing about significant legislation in Italy, Spain and Denmark.

GREF has played a critical role in the European CWA standards.

NAGRA – North American Gaming Association

NAGRA represents all North American regulators including tribal commissions. I is the largest organization from the regulatory standpoint. It provides a forum for the mutual exchange of regulatory information and techniques, collecting and disseminating regulatory and enforcement information, procedures, and experiences from all jurisdictions. It also provides on-going gaming education and training for all members.

NAGRA has an Internet Committee that is seeing more activity in the recent years. At the last NAGRA meeting in September 2012, North American Regulators have shared a common view that there is lack of knowledge about online gaming within their domain. They have agreed to make online gaming the focus of their agenda for their next annual meeting in 2013.

GSA has participated in NAGRA meeting in the past contributing insight on various aspects of the industry.

IAGR – International Association of Gaming Regulators

IAGR is a spin-off from IAGA International Association of Gaming Advisors is a non-profit organization but is sponsored by its sister organization. It is the only international organization for regulators.

IAGR mission is to advance the effectiveness and efficiency of gambling regulation by providing a forum in which gaming regulators from various countries meet, exchange views, information and discuss policies

It acts as a central point of contact for inquiries from governments, regulatory agencies and the international gaming industry. It is the only organizations that brings regulators and the industry under one roof through IAGA.

WLA – World Lottery Association

The World Lottery Association represents state-authorized lotteries. In some jurisdictions lotteries are also responsible for enforcing the gaming policy jurisdiction. However WLA is not an organization for regulators.

The WLA is important in this context as it is the only organization that has a mission to create gaming standards. Its core objectives are:

- To collect and disseminate information about the lottery business and other areas of relevance.
- To establish standards of best practice.
- To establish ethical standards.
- To provide educational and professional development services (conferences, seminars), information and reference services to our members.
- To provide a united voice together with the regional associations so that our members may have a respected reference point and consistent messages and information to provide to those in authority.

Technical Standards

The online gaming industry uses the term 'Technical Standards' very loosely. All technical standards are published by regulators, with the exception of two published by testing laboratories:

- E-COGRA General Accepted Principles for Online Gaming; and
- GLI-19 Standard: Interactive Gaming Systems (Suppliers)

The subject of technical standards is discussed in the Findings section. This section is limited to the standards published by the testing labs.

E-COGRA General Accepted Principles

This was the first document in the industry. It is more of a guideline of good practices that operators and manufacturers should adopt. Over the years it has been updated to include new form of online gaming as well to strengthen the responsible gaming procedures.

It remains a very good document but its role has been taken over by other regulators technical standards.

GLI-19 Standard: Interactive Gaming Systems (Suppliers)

The GLI-19 Standard is the closest to being a proper technical standard, coming from the industry.

It is compiled using several sources from different jurisdictions. It mandates minimum technical features and functionalities for online gaming systems.

As all other GLI standards although the document addresses suppliers, it is intended for regulators. It does not tackle industry specific issues such as interoperability or data exchange formats. Nonetheless it remains a very useful document for the industry and as regulators generally trust GLI standards, it has a lot of value. Ideally the standard should be more inclusive to create awareness among regulators of the need of having standard regulatory reporting and system monitoring.

Technology Oriented Technical Standards

In addition to the above, France and Italy have a 'Communication protocol' standard. This consists of a transport layer specification in XML format for regulatory reporting and traceability. The Italian protocol is based on various parts of the S2S protocol, but is been rendered incompatible. The French has a similar technical standard (DOSSIER DES EXIGENCES TECHNIQUES - http://www.arjel.fr/IMG/pdf/det.pdf and http://www.arjel.fr/IMG/pdf/annexe.pdf) for regulatory reporting, but includes specification for the secure storage of critical information and the use of a separately licensed security vault. The DET is a quite detailed and comprehensive document that has been updated to include capturing of further financial and game events for poker and betting. It is arguably the best example of a technical document from a regulatory perspective with clear and objective requirements.

Key Findings

Technical standards in the land based gaming industry have evolved and matured over many years. The online gaming industry has yet to start the process of creating standards.

The lack of proper standards in the industry makes it difficult to assess the degree to which controls actually provide the reasonable assurance that is required by executives and regulators.

" I argued that representative government, either in what is ordinarily called politics, or in industry, cannot be worked successfully, no matter what the basis of election, unless there is an independent, expert organization for making the unseen facts intelligible to those who have to make the decisions. "

Walter Lippmann , *Public Opinion* (1922)

Online Gaming Standards

Current Challenges of the Online Gaming Industry on Standardization

In its 2011 report, **"Technical Issues: Good Practice Guidelines for the Remote Gambling Industry",** the Remote Gaming Association noted that:

"The RGA is committed to the encouragement of high standards of probity and integrity, both for the benefit of its members and the public generally. Ensuring that technical standards are consistent, proportionate, practical, and effective is central to that, but it is also crucial to ensure the success and sustainability of all licensing regimes and the protection of consumers.

It would be beneficial for regulators and consumers for similar processes and standards, derived from evidence and risk based decision making, to be adopted across jurisdictions. At the moment it is common for policies to be developed in isolation, but there are increasingly calls for regulators to work together to share best practice. This was, for example, one of the recommendations in the 2011 report of the European Parliament's Internal Market and Consumer Protection Committee (IMCO) on online.

As the number of companies that hold licences in multiple jurisdictions increases, these inconsistencies will create more management and compliance problems and will serve to increase fragmentation of the online gambling market. It could also lead to an unnecessary duplication of company and regulatory infrastructures with replication being required in each licensing jurisdiction. Market fragmentation of this kind makes regulatory compliance less efficient; increases regulatory burden for regulators; is detrimental to consumer value; and may lead to the satisfaction of consumer demand by providers established outside the EEA area or completely un-regulated providers

By producing these guidelines and highlighting what it believes to be regulatory best practice, the RGA hopes that these burdens can be reduced for the benefit of all involved. In doing so it readily acknowledges the regulatory objectives of licensing jurisdictions and the work that has already been undertaken in this area by likeminded regulators through forums such as the International Association of Gaming Regulators (IAGR), and by standardisation bodies, such as the European Committee for Standardisation (CEN).

While innovation and technology may present new challenges for regulators, they also create new opportunities to provide efficient consumer protection and combat crime. Besides the registration of all transactions in an operator data warehouse, leaving a digital audit trail, remote gambling is characterized by increased consumer transparency and the absence of cash transactions. In addition, and notably in the field of KYC, new eVerification technologies are strategic enablers for the exclusion of under-aged people and the fight against fraud (for example, because of the decreased risk of ID theft or credit card fraud). . . . ."

The RGA set fort the following objectives:

"It is intended that these guidelines should:

a. Support regulators in designing efficient and effective technical standards within a wider regulatory framework that takes full account of information society services, consumer experience and inherent market dynamics;

b. apply to all platforms and methods of remote delivery;

c. accommodate the differences and the different requirements necessary between betting and gaming products;

d. underline the integrity and fairness of remote gambling products;

e. assist with the creation of standards that will ensure that online gambling products are fair, secure, auditable and can be regulated efficiently.

f. provide assurance to consumers that the industry, its regulators, and those involved in testing and approving products are all committed to, and capable of, providing fair and safe betting and gaming;

g. allow for technological developments and innovation; and

h. cover not just the standards themselves, but also the principles of good testing of those standards by both regulators and third party testing organisations. Wherever possible they should focus on identifying what objectives they are seeking to be achieved, and not be unnecessarily prescriptive about what means should be used to achieve them. "

The message is clear that the industry is seeking ways to bring standards into the industry. Lacks of standards are resulting in discriminatory measures against operators and unnecessary development of systems to deliver the same information in different formats.

Current Challenges of Online Gaming Regulators on Standardization

The regulators are in a similar situation as the industry. They too see the need to have standards. They first attempt to address the problem of common technical standards was in 2006 by setting a working group within IAGR. The objectives for regulators to have common standards are:
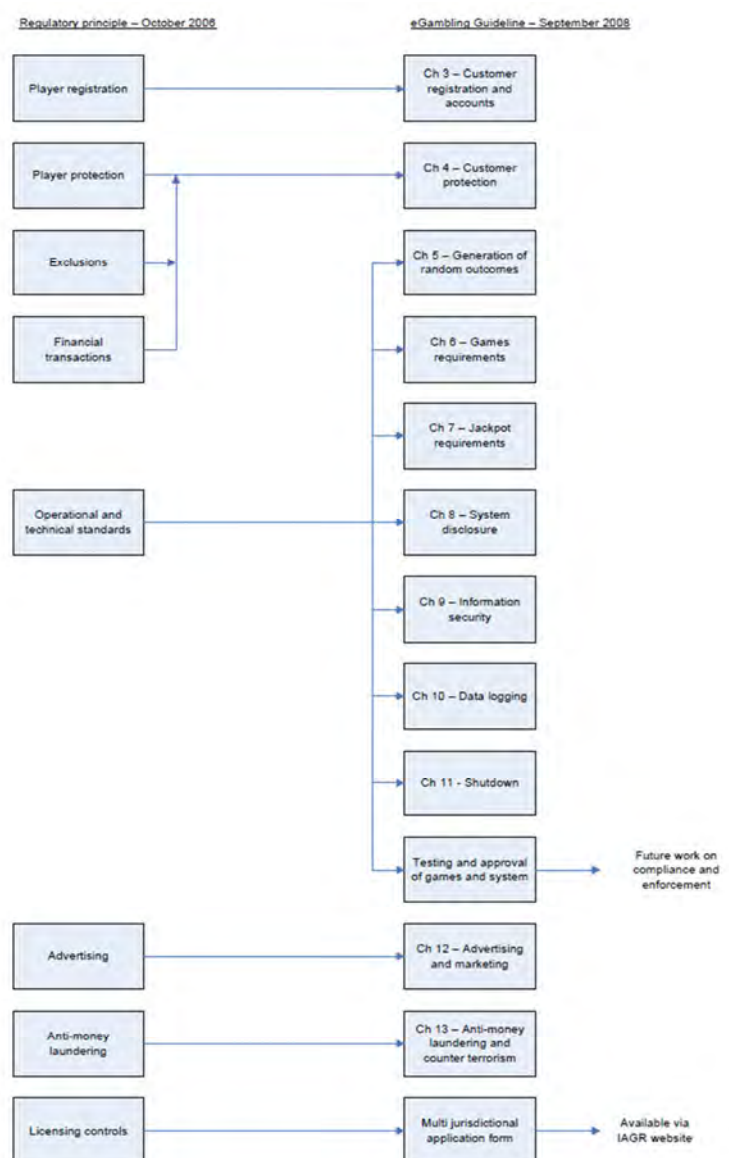
- More streamlined licensing process by having same type of documentation for different jurisdictions.
- Gaming Platforms can be utilized across jurisdictions and reporting accordingly
- Facilitate sharing of information for international investigations

The **IAGR eGambling Guidelines** has served as a template to many jurisdictions regulating online gaming. The document is critical towards the creation of standards as it establishes the procedure on how standards should be derived from the principles of a good gaming policy. The schematic is an extract from the document that outlines the principles set forth by IAGR members and how these were transformed into standards in 2008.

When these standards were officially published in 2008, many jurisdictions that participated in the formulation process had already published their own version based on this template.

The commitment to review these standards as technological advances continue to change the industry has not yet materialized. It is critical for the industry that regulators take a proactive approach towards issuing guidelines as new trends in gaming appear.

A case in point is social media and social gaming. There are no guidelines yet on how to integrate social media features into gaming but from experience some regulators are considering prohibitory measures regarding social media as they are unable to understand how it works.

Policy-Based Standards

The IAGR committee established that there would be three types of standards:

- Internal Control Procedures that govern human based functions.
- Technical Standards to cover all non-human functions; and
- Codes of Conduct that clarify further operators' obligations on particular matters.

It also established a fundamental set of standards that became known as the Minimum Regulatory Requirements. The first two Standards are critical for this report. Codes of conduct are normally associated with particular sections of the regulations such as advertising, marketing or player dispute. They fall outside the scope of this report.

Objective Minimum Regulatory Requirements

The minimum legal requirements are still a great issue among regulators. Although there is general agreement on what needs to be safeguarded, based on the principles of a responsible gaming policy, their actual implementation varies from state to state. As long as the regulations are complete, clear and objective, implementing the legal requirements is not difficult. Problems occur when the regulation are 'decision-based', leaving it up to the licensees to decide the level of risk. The industry is in favor of decision-based regulations as expressed the RGA in their guidelines, but the decisions must apply in the same manner. Computer systems cannot decide on risk and have to be set with precise criteria, making certain processes difficult to automate without human intervention. In some areas there are discrepancies between gaming regulations and other regulations, especially in the prevention of money laundering. Currently it is impossible to implement a single gaming platform across borders even if this permitted by the jurisdictions. Different interpretation of the same procedures requires different modules in the system and different procedures. Personnel have to be trained on multiple procedures for the same task depending on the player's country of origin. The result is higher costs, slower systems and unnecessary overheads in compliance functions.

Regulators argue that risk-based regulation is the way forward as they are unable to implement the level of controls required by more prescriptive measures. However the risk-based approach should be limited to the **means** of carrying out the gaming activity. Otherwise the critical points must be well defined.

Such unclear situations have led to grievances from all stakeholders, with the operators suffering the consequences most of the time.

GSA has an opportunity to formulate proper standard industry guidelines to be used as a global reference in 'risk-based' situations. These guidelines have to receive approval and endorsement by regulators, implying that regulators have to participate in the formulation process. There is no other independent organization in the industry that has the qualifications, expertise and experience to assist regulators in achieving common grounds.

Internal Control Procedures

Internal control procedures cover the human functions. They normally cover player management, funds management, game management, IT security, system administration and personnel:

- Keeping of Records - Player account information, financial information & game event data
- Protection of Player funds and winning policy and procedures
- Dispute resolution procedures
- Prevention of Game Fraud, Collusion and Cheating Procedures
- Business Continuity Procedures
- Change Management Procedures
- Interrupted gambling and Miscarriage of Games
- Prevention of Money laundering procedures
- Prevention of collusion and cheating
- Information Security Policy and Procedures
- Human Resources engagement and disengagement procedures
- Responsible Gaming - Financial limits and Time limit requirements

Technical Standards

Existing technical online gaming standards are not alike. There are wide ranging differences in technical standards implemented in different jurisdictions. Moreover some jurisdictions may require 'more' standards than others. The following is a list of common standards that are common in UK, Alderney, Nevada and Malta:

- Time-critical events (Malta and UK only)
- Result determination for Real Money Gaming
- Result determination for play-for-fun games (UK and Nevada Only)
- Generation of random outcomes (gaming (including bingo), lotteries and betting on virtual events)
- Minimum requirements in technical architecture
- Detection of Fraud, Collusion and Cheating
- Player Authentication/Verification
- Minimum functionality in application software – Client and back-end
- Regulatory Reporting (Data Interchange) Standards (France, Italy and Spain)

Only the regulatory data interchange standards specify a presentation, session and transport systems. Where such standards exist the specifications are different for each jurisdiction.

Industry-Based Technical Standards

The aforementioned standards are within the policymaker's domain. The industry does not have any control on their production except that it can influence and put pressure on the policymakers to have a more desired outcome.

Interestingly there are no standards issued by the industry itself. Unlike in the case of land based industry which has developed standard protocols such GDS, G2S and S2S, the online gaming industry has yet to make a common effort to come together and establish similar standards. The current situation is lack of compatibility between systems which continue to cause frustration among operators. Today there is an entire industry that develops translators between systems. Although these modules partially solve the problem, clearly the industry has adopted a strategy of Band-Aid engineering.

The industry has adopted a strategy of Band-Aid engineering.

The situation is also causing major problems for the manufacturers. They cannot upgrade their systems at the speed of the market since every new feature causes some incompatibility with other systems that require translator require upgrades. The end result being that every system release becomes a major release requiring full testing procedures and recertification.

XBRL

The financial services industry has developed the eXtensible Business Reporting Language (XBRL), an open standard for the exchange of business data. XBRL offers major benefits at all stages of business reporting and analysis. The benefits are seen in automation, cost saving, faster, more reliable and more accurate handling of data, improved analysis and in better quality of information and decision-making. It is used by all the stakeholders in the financial industry, but most importantly its value was also seen by the policymakers who are now adopting the protocol for regulatory reporting. SEC in the US have mandated XBRL. Regulators are now encouraging the widespread adoption of the protocol not only at national level but also internationally. HMRC, the UK Tax authority, requires XBRL for tax filings. Companies House in the UK also requires XBRL Filings. Exchanges in Singapore, Japan, China and several EU countries, for example – also require XBRL. The Australian Government in 2011 went live with a program where XBRL is required for filings with five different departments. They expect to save $800 Million annually

Being an open standard a number of tools, some freely available in the public domain, have been developed some with public funding.

XBRL power is in the mapping of data into additional metadata thus making it very flexible to The Online Gaming industry can implement the protocol in many sectors that require reporting.
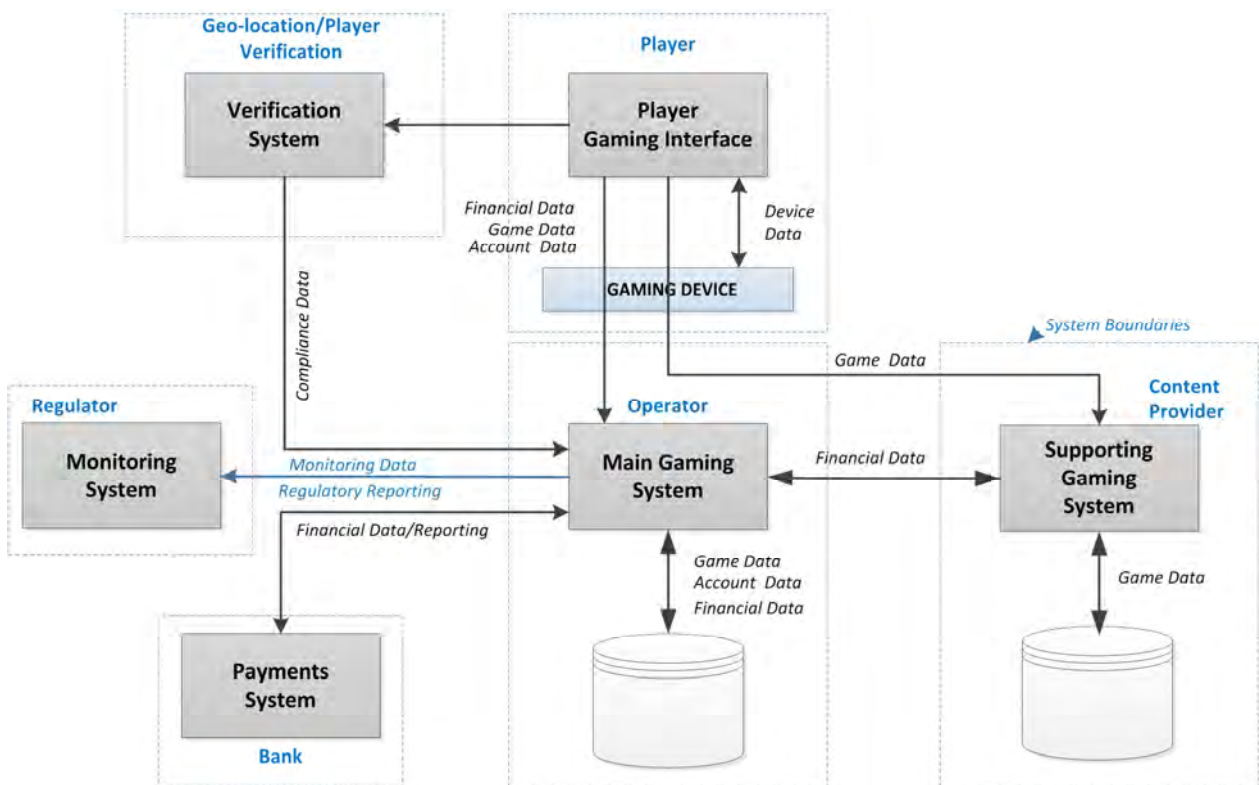
Opportunities for Industry-based Technical Standards

The schematic below is shows a high level architecture of an online gaming system. The Main Gaming System is connected to third party systems providing different services and the player. The schematic shows only one instance of third parties systems but in reality there are several instances of each of the external system including multiple regulators in some set ups. Additionally the player gaming platform varies from player to player requiring the collection of information about the device, connectivity, operating system, browser type and additional technologies that may effect gameplay.

Each of the six external systems requires a different APIs for data interchange. In some cases the same information is exchanged using different formats. Some providers argue that having a proprietary API allows them to offer more features to operators. However the reality is that once a feature occurs on one system, it soon becomes available on other systems with the operator having to fork out upgrade costs.

Manufacturers are also loosing from the business standpoint. In areas where liquidity is critical for example jackpots or poker, they are unable to offer this to the operator on a collective system. In this case the operator takes advantage and becomes the aggregator. A case in point is the seamless wallet technology that by default should have been a service offered by the manufacturers. Due to incompatibilities between wallets, the operators now control the flow of funds into systems.

Future development regarding integration with land based Casino Management Systems will result in more problems, since part of the system will standards based whilst the other remain unstructured. In cloud based gaming, the gaming devices have to be treated alike to allow shared functionality. Unless all systems are talking the same language it will not be possible to offer the same level of gaming.

Conclusion: Technical Standards

The lack of industry-based standard protocols results in:

- High maintenance costs to keep all interfaces updated.
- Frequent testing and re-certification. Testing labs need to review every system separately resulting in higher costs. Testing labs cannot rely on standard benchmarks for their tests leading to subjective results that are affecting the integrity of the industry.
- The player terminal is the highest security risk in the system and has to be continuously monitored. Different systems have to communicate separately with the player terminal to monitor the same information simultaneously leading to frequent crashes where device performance is at a premium (such as mobile devices).
- System performance is severely hindered due to overheads caused by the complications of the messaging bus.
- Third party applications, such as business intelligence tools or applications in the cloud, cannot be used for the online gaming industry without proprietary integration.
- Regulators do not have the resources and capacity to keep up with the technology so they resolve to old-fashioned reporting methods that result in a huge human effort.
- The lack of open standards is affecting Innovation in the industry as a whole.

The industry lacks a central reference point that looks beyond the interests of public policy. There is a need to bring harmonization in common areas such as technical standards, internal control procedures, benchmarking and certification. GSA is the only global organization that has the qualities, expertise and the industry backing to develop open standards for the online Gaming industry.

To quote an older GSA text: *"GSA protocols addresses the three fundamental "A"s: Authentication, Accountability, and Agility. The three "A"s in the GSA protocols can provide the gaming industry with the communications technology capable of supporting it for the foreseeable future." This is exactly what is now required for the online gaming industry."*

For example the adoption of GAT in online gaming would resolve regulatory monitoring and system integrity issues. Authentication in the GAT protocol potentially has the ability to ensure that the software on the online gaming servers or in the remote player terminal is exactly what was approved and is free of tampering. GAT provides a means of verifying the software in a gaming device and can also verify change management procedures on the central servers. It can provide regulators with real-time, critical compliance information and avoid the need of further reporting. Likewise, cheating and collusion from the player's end can be monitored through a GAT extension providing both regulators and operators with instant alerts.

Proper reporting between online gaming systems and, regulator and operator is the second "A" – Accountability, in GAT. Standardizing the reporting method, transportation, timings and format will alleviate the systems, provide clear and objective data, and will bring about standard reporting KPI's.

GSA already recognized the usefulness of the GAT protocol in a WAN environment. As a result of the operator's requests, GSA has underwritten a project to investigate the feasibility of the deployment of GSA protocols in an open environment.

This comparison between land based and online gaming demonstrates how close the technologies are and the benefits they potentially share. Moreover, with the continuing convergence of online and land based systems, we are coming to a point that operators will implement one system to handle all the delivery channels. The concept of the *virtual gaming floor* whereby the gaming device is independent of its gaming device, is much closer than we think. An open standard protocol will simple accelerate the process of getting there. **GSA is more than half-way into the process of creating technical standards for online gaming with its existing protocols.**

Online Gaming Industry Stakeholders

The online gaming industry has four types of stakeholders:

- Manufacturers
- Operators
- Service Providers
- Trade Organizations

The strongest stakeholders are the manufacturers and operators who control the industry. In both cases there are three tiers within their sector:

- Top Tier: Multinational organizations with multiple jurisdictional licensing dealing with over million players
- Second Tier: National organizations with a single national license or a dotcom license less than million players
- Third Tier: Small organization having few thousands of players.

The service providers include data centers, payment gateways, testing laboratories, verification, and marketing. One particular datacenter is a multinational company with data centers in different jurisdictions. Testing labs payment systems and marketing are also across multijurisdictional. Other service providers tend to be regional or at national level.

GSA Role with Industry Stakeholders

GSA stands within the industry domain so supporters for its online gaming initiatives have to come from this group. Operators are probably the first to realize the value of GSA. Top tier operators can afford to be platinum members, but it's most probably that they would not see the benefit of participating at this level unless there is a clear strategy that impacts their business. Manufacturers see the value of having standards **if** it gives them an advantage in the industry. They are not interested in developing open standards for the benefit of the industry.

Although GSA is contrary to this view, it should give it consideration. Certain open standards started as closed standards that permitted their creators to gain advantage over the industry. Once they established a clear market lead, they released the standard to into public domain to encourage further innovation and long term support for the standard.

GSA Role with Regulators

An international trade association that creates benefits for gaming manufacturers, suppliers, operators and regulators. We facilitate the identification, definition, development, promotion, and implementation of open standards to enable innovation, education, and communication for the benefit of the entire industry.

GSA Mission Statement

Although GSA's mission statement states that it has a role with regulators, their participation is completely absent..

GSA is well-known organization with regulators having participated in a number of their annual meetings over the years. Their view is that GSA is a highly technical organization that comes up with elaborate standards for the benefit of the industry.   The majority of gaming regulators does not have internal technical capacity that evaluates and test systems. When publishing legislation with technical standards, most likely, they would reproduce from other jurisdiction with some modifications that suit their needs. They engage external experts who are only proficient in the legal aspects of gaming, but have no technical knowledge. In many cases new legislation on online gaming treats the industry similar to land based gaming with disastrous effects. A historical example is the first Italian law on online betting which required that every bet has to be sent to state monopoly for validation (the actual language was 'must be rubber stamped'). On the first Sunday the market went live the monopoly's bet approval system received over a 250,000 transactions in the first hour and crashed. It took two years for the Italian state monopoly to resolve the issue by having a proper reporting system in place that did not required real-time approvals. The operators spent millions of euros developing and redeveloping protocols over that period. The same law required that players registration process would be a twenty-page document with terms and conditions which the player had to download, print, fill, sign and fax to the state monopoly from an authorized post office. The cost of faxing the document was 20c per page. The state monopoly never received a single document.

The role of putting pressure on regulators to come up with sensible, non-discriminatory, common standards is already fulfilled by RGA and EGBA. These organization lack global presence especially in the North American Region but they have the capacity to expand. GSA can fulfill that role being a global organization. However GSA can play a totally different role with regulators and be closer to its mission statement.

Online Gaming is proving to be a challenge for regulators. They lack the capacity and resources to deal with the constant changes in technology and business models in the industry. They cannot prohibit new technologies otherwise their licensees fall behind competition, but they still need to ensure accountability and integrity. The need to be proactive in their decision-making process to act before the industry invests in new technologies which later it has to adapt.

GSA can play the role of educator to regulators. It has the capacity to do so having its members on the forefront of developments within the industry. They can predict the future requirements of the industry and be able to communicate them in an comprehensible manner to regulators. In the process GSA builds a knowledgebase that regulators can use and contribute to, becoming a central point of reference for all the stakeholders in the industry, or GSA members only.

GSA can also be an educator within supra national fora, such as the European Union. In this regard the GSA has made a formal contact with the European Commission. GSA CEO, Peter DeReadt and the European Commissioner for Public Health and Consumer Affairs, Mr. John Dalli met in April 2012. The scope of the meeting was to officially introduce GSA as a standards body in the gambling industry and brief Mr. Dalli on the work GSA has done for the benefit of the industry and the consumer. Mr. Dalli expressed his desire to see GSA working on measures that bring consumer protection and standardization in the online gaming sector. He offered his assistance to GSA to move forward with the online gaming standards initiative.

Strategy

Key Facts

Standards in the land based gaming industry have evolved and matured over many years. The online gaming industry has yet to start the process of creating standards.

It will require political support from our industry leaders, relevant global gaming associations and an industry acceptance of the role we play and the value we provide.

"

We are limited, not by our abilities, but by our vision.

"

A New Future

The time has come to position the organization to play an active role in the harmonization of traditional, online, and mobile gaming across the globe, starting in Europe and US.

Introduction

The purpose of the previous section was to give an insight of the present state of the online gaming industry, highlighting potential sectors for GSA to have a role for the benefit of the industry and/or its members. The focus was strictly on online gaming avoiding the impacts of external factors that are influencing the industry.

The purpose of this section is to explore the future of online gaming within the framework that it shares with the rest of the gaming industry. The focus is on the external factors that are shaping the industry.

Understanding the impact of new technologies on our industry, the role of GSA becomes more critical in a future framework having a collaborative environment between the stakeholders to drive progress and innovation within the industry.

We need to explore what sectors are experiencing innovation and what is driving change in our industry and how GSA can be a catalyst.

This section concludes with a strategy vision for GSA. A strategy is about shaping the future. It is used to figure out how to achieve the mission and objectives of an organization, outlining the path between where you want to go and what you need to get there. For a corporate entity, a great strategy would be one that shows the most effective path to reach the ends. A great strategy for GSA must be one that its members look upon as a catalyst for their own corporate strategy.
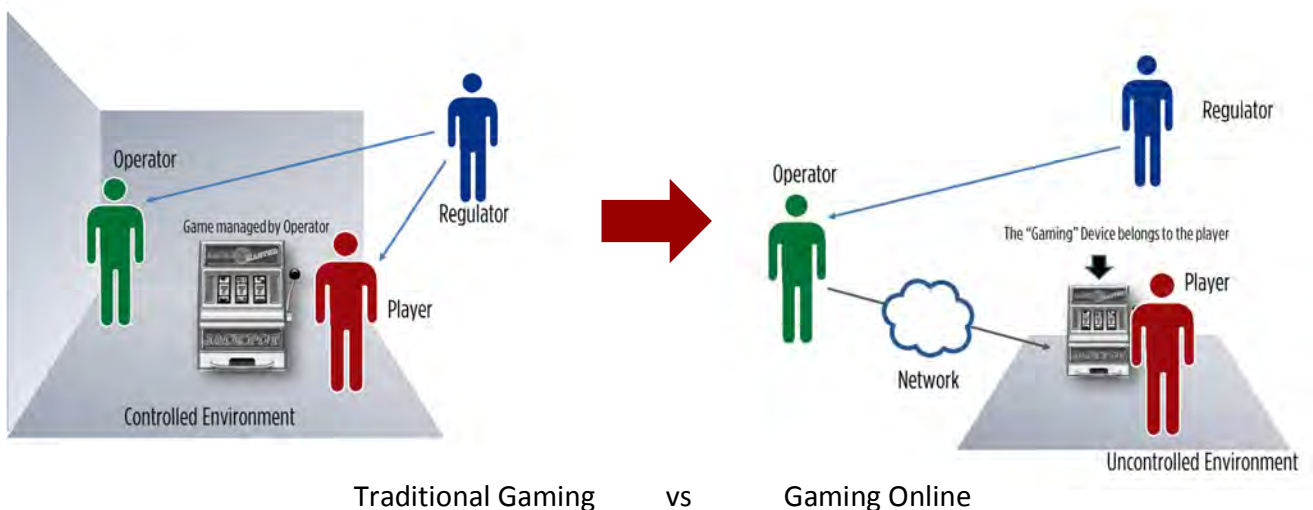
Game Changer

In every business there are moments when the game changes. It may be a new technology that renovates a product, a new business model that reshapes a company or a new legislation that transforms a market.

Many perceive online gaming as the game changer, but it may not be the case. Certainly online gaming has influenced gaming behavior, players became anonymous, created new gaming trends and now gaming has no boundaries. But online gaming was invented to circumvent the law so it could offer consumers a more aggressive product than that offered by who was 100% committed to regulatory compliance. Online gaming did not change the product (i.e. the game) but disrupted the delivery model.

The real game changer is the online revolution that has altered consumer behavior. There is now a new way to buy everything. EBay is the world's largest garage sale online, Expedia is the world's largest travel agency online, Amazon is the world's largest department store online and Pokerstars is the world's largest poker room online. The Internet, being a global network, has made these companies global brands that offer their customers a personalized service anytime, anywhere.

The new generation of players still wants to have the excitement that gaming offers, but it wants to experience it at a personal level. The whole gaming experience is transforming from that offered by a gaming floor to one offered by a personal device that can be customized to the players' preferences and where gaming can happen anytime, anywhere.
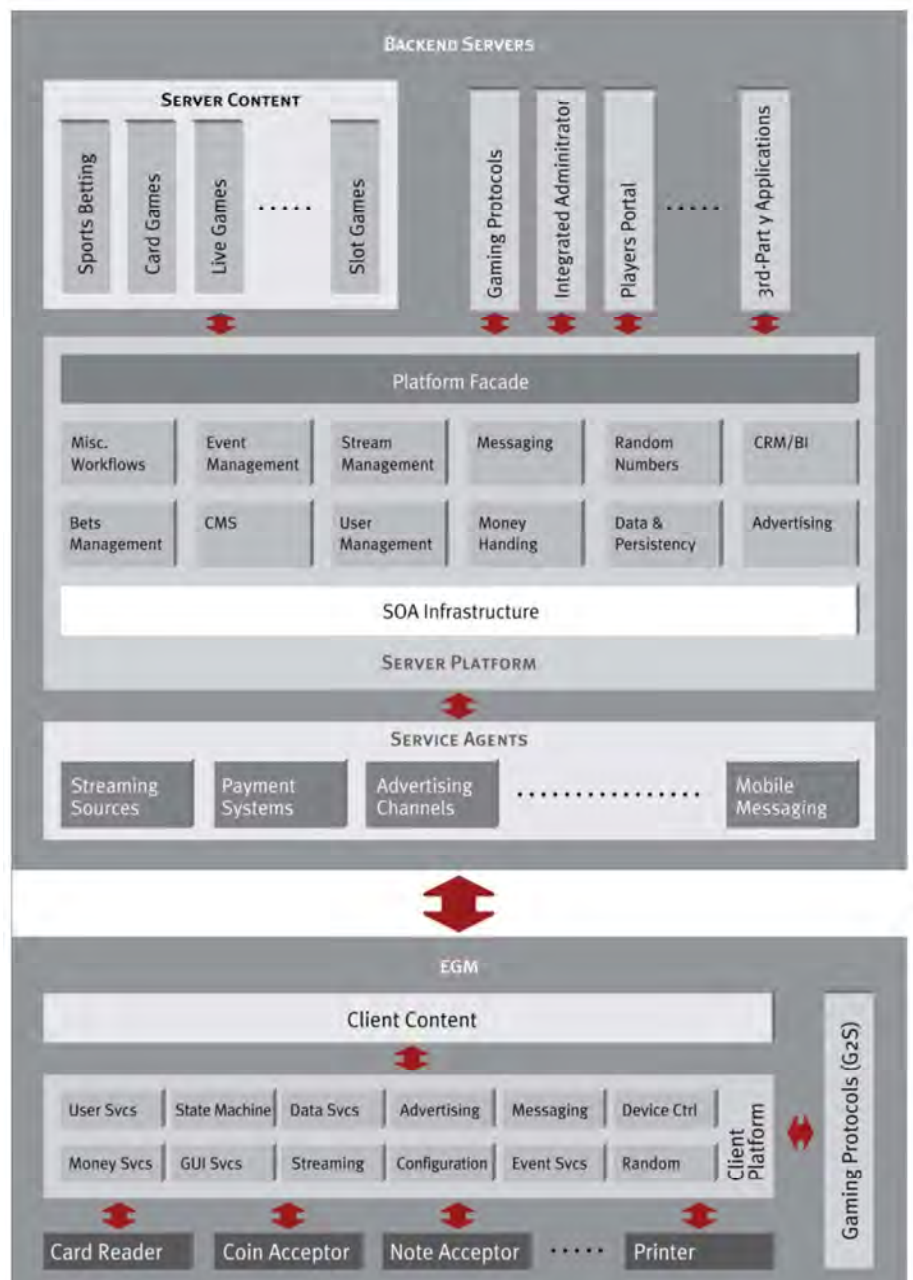
> The Internet has turned the world into a global village and our homes into a supermarket

Traditional Gaming   vs   Gaming Online

This means that gaming is shifting from being EGM centric to system centric. Whereas today all the attention is given to the device, in the future the device is a mere conduit within the delivery channel for game content. It will not make sense in the future to keep building EGMs with high security features, carry out certification and operating them in a controlled environment when the same game content is available on a simple mobile phone to an anonymous player who may be anywhere. Online gaming, by its nature is already system centric. The next generation of EGMs is expected to be more system centric using similar game content delivery as online gaming.
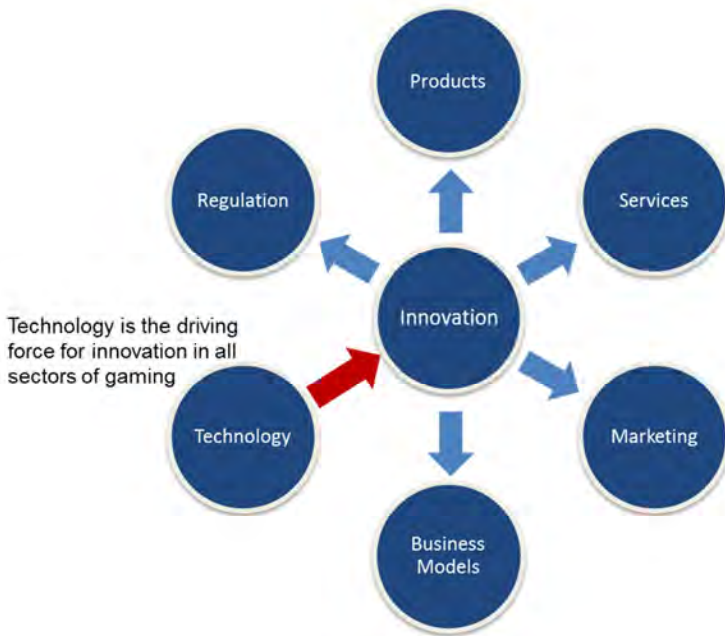
Currently there are two types of Gaming systems: Online Gaming and Casino Management Systems. They have different functionality, but as their markets converge, they are being integrated into one system. The illustration below is from Comtrade Gaming Competence Center Information pack - SOLUTIONS FOR CASINO VENDORS. It clearly demonstrates how one system manages both online and land based gaming. COMTRADE uses S2S and G2S protocols for land based communications but have to implement proprietary protocols for the online facing modules.

Innovation

Technology is the driving force for innovation in all sectors of gaming

All sectors of online gaming are experiencing different levels of innovation, but the catalyst is technology. Technology is changing gambling behavior, accessibility to gaming, creating new business models, products and services.

The industry cannot ignore the importance of having GSA at this critical phase. GSA's mission is to facilitate the identification, definition, development, promotion, and implementation of open standards to enable innovation, education, and communication for the benefit of the entire industry. The very reason why GSA was founded in the first place was because the industry went through a similar change process fifteen years ago. In that particular moment in time technology brought all sorts of gaming devices together to a common network but they could not share each its resources as all had their own proprietary communication language. The operators quickly identified the problem that was hindering their business growth so they pushed the manufacturers to resolve the issue. It took a lot of education, persuasion and patience to bring the industry together and finally realize the value of having open standards. Today S2S, G2S and GDS are undisputed standards that are supported by the whole industry.

The industry is now at a similar moment in time and once again GSA's help is needed to facilitate the process of creating common

Manufacturers originally founded GSA in need to address a number of technical issues that were hampering the growth of the gaming industry.

Other Manufacturers and Operators joined GSA as they recognized the value of Open Standards.

standards or the new generation of gaming. As explained above, this change is all about the changing behavior of gamblers and GSA's members should not wait until they implement online gaming to start working on standards. The standards are needed for a convergent market where gaming happens in the cloud. There will only one system serving multiple platforms. Games content will be designed to be platform independent. Gaming will happen anywhere, anytime.

The present GSA operators are still in their infancy when it comes to online gaming, with some still lacking such functionality. This means that it is going to take some more time for the individual members to realize the issues involved and start pressing for action to be taken. It is essential for GSA members, especially the operators, to look beyond their present needs at other markets where this change is in an advanced stage.

It is critical for GSA to attract online gaming operators to become members so they can share their experiences and participate in the future building of the industry's open standards.

Innovation in Regulatory Policy

Perhaps the sector that is experiencing the most 'disruptive' innovation is the one where it was least expected – Regulation.

Specifically, the changes are happening at the gaming policy level, but the end effect is new regulatory policies on gaming. For the industry these changes are resulting in new opportunities, bigger markets and in improved relations with the policymakers. In the past regulators' policy was to police the industry by enforcing the word of the law. This led to complicated legislative frameworks that ensured that every event was covered by law. As the industry broadened due to technology becoming the prevailing gaming component, regulators had no control over certain elements of the system. In response regulators simply took the shortest route and prohibited or restricted new technologies. However public opinion on gambling is changing. Once seen as an affliction to society, today gambling is being perceived as a form of adult entertainment. People are playing more to enjoy themselves rather than to try to get rich out of gambling. Studies have shown that though gambling is now more accessible by the public, due to new forms such as online gaming, compulsive gambling increased slightly in the last few years but it is not attributed to the new forms of gambling (British Gambling Prevalence Survey (BGPS) 2010. - http://www.gamblingcommission.gov.uk/pdf/British%20Gambling%20Prevalence%20Survey%202010%20-%20Executive%20summary.pdf).

> It will require political support from our industry leaders, relevant global gaming associations and an industry acceptance of the role we play and the value we provide.

Modern gaming regulation takes a risk based approach towards the conduct of gaming activities. It focuses on the manner of how the game is offered rather than the game itself. It puts responsibility on the operator to have the right level of control to ensure games are fair and transparent, gaming is kept free from crime and corruption, and that vulnerable players and minors are protected. Regulators are not a police organization any more, but a tool in the policymaker hand to safeguard the fundamental principles of a responsible gaming policy.

GSA has to be a participant in the formulation of modern gaming regulations where it comes to technical standards. Already G2S and S2S are accepted technical standards in land based regulation. GSA needs a similar strategy for gaming in the cloud.

'Gaming Online' Strategy

GSA future strategy should **not** be based on online gaming. There is no value in creating standards for an industry whose majority of stakeholders thrive on ambiguity. Standards need to be endorsed and enforced by the authorities. Currently jurisdictions that licenses online gaming have no enforcement powers on their operators if they are incorporated outside their legal jurisdiction.

The value of standards can only be understood and appreciated by operators who possess a land based businesses and can offer gaming online within borders. However there a very few such jurisdictions – three in Europe and three in North America, that are in this position and some of them still do not have enough experience to realize the value of integrated systems.

GSA members have to make a choice:

- A status quo approach and wait to see who wins the 'Systems War', or
- A proactive approach and push their technology and standards onto online gaming.

The strategy that is being proposed here is based on the second option.

The strategy is based on the concept of 'Gaming Online'. It is also based on GSA mission statement bringing manufacturers, operators, suppliers and regulators together to formulate open standards that are promoted, disseminated and available to the whole industry. The value is reduced costs due interoperability between systems and driving innovation by having more stakeholders designing support systems based open standards.

The strategy has five objectives:

1. A platform for Global Collaboration between Industry Stakeholders
2. Current GSA Standards need to fit the needs of New Platforms
3. Evolve Standards beyond Technical Protocols
4. Widen the Industry Sectors
5. Promote and Educate to Drive Innovation

A Platform for Global Collaboration between Industry Stakeholders

GSA already has a collaborative platform that it uses for development of its standards. However this is a developer's platform and its scope is narrowed to software development only. GSA must have a Web-based enterprise collaborative platform which is capable of facilitating the sharing of information between various industry stakeholders. If GSA desires to widen its scope beyond technical standards it needs to make itself accessible to other non-technical users.

The platform is to be used by operators, manufacturers, suppliers and regulators to share knowledge and information that is compiled by peers or GSA. It should become a live reference point for the industry to look up for qualified information.

Current GSA Standards need to fit the needs of New Platforms

Analyze the G2S and S2S to identify how these protocols may be implemented efficiently in an Internet based environment. Some classes in S2S already possess elements that are required for playing online such as the Informed Player Class. However more information and events are required to manage gaming from anonymous devices and players. Events such as geo-location, multifactor authentication, financial game data, such as wagering needs to be addressed.

Work with regulators to implement GAT as a monitoring tool for cloud based gaming.

Evolve Standards beyond Technical Protocols

GSA should consider developing standards within a wider framework.   Currently GSA has three protocols that address the communication between various components inside an EGM, between an EGM and the managing system and between systems. It does not address regulatory reporting systems, payment systems, verification systems that are essential for gaming online.

Furthermore, GSA should explore the possibility of formulating human-based procedural standards that are needed to manage gaming in the cloud.

Widen the Industry Sectors

GSA needs to endorse a wider group of stakeholders within its own domain and from the policy makers domain to become a truly a global representative of the gaming industry. Understandably regulators cannot belong to GSA, but their participation as forum is invaluable in the formulation of future standards.

Online gaming operators, suppliers and manufacturers have mixed reactions on being part of GSA. The top tier operators are potential candidates and some have already expressed interest. However they feel that the membership fee structure is a barrier to entry. Some operators see their membership depending on the North American market opening up. Their perception is that GSA is a North American organization. One would assume that online gaming operators would be the first to join as members being the ones who have most to benefit from common open standards. Unfortunately, in the online gaming industry, most operators are also manufacturers, offering their system on a B2B basis. Any value gained in implementing a common standard is business lost on the B2B side which generates a significant revenue from integration projects.

Promote and Educate to Drive Innovation

Unquestionably GSA has been instrumental in disseminating the need and value of open standards for the gaming industry. Fifteen years ago such an idea was considered pointless and unwarranted. Today millions of dollars have been spent on R&D and equipment that works on G2S and S2S. We cannot imagine our world without these protocols. They have played a critical role in some of biggest success stories of our industry.

The need to having further standards and their value still needs to be understood by stakeholders. GSA has to formulate an education program for the industry to share is experience and the value of having open standards. The online gaming industry looks upon G2S and S2S as EGM specific using a heavy transport system and antiquated frameworks compared to today's Internet technologies. It can only realize the potential of GSA if the *understands the concept of having standards*. Only GSA is in a position to bring this to the industry.

Conclusion

GSA is a critical organization to its members but not to the whole industry. Its value is not yet understood by the new generation of operators, manufacturers and suppliers who were created by the online revolution. As things stands, online gaming operators have an advantage as technology is moving in their favor. Land based operators have to acquire or adopt if they want to survive in the future. The only way for them to claim their position in the future gaming landscape is to bring their systems to cloud gaming and that means extend G2S and S2S to work in that cloud.