Adapting Massively Multiplayer Internet Computer Games
to the Mainstream Market:
A Business Plan for Turbine Entertainment Software

by

Jonathan Graves Monsarrat

B.S., Electrical Engineering (1989)
Massachusetts Institute of Technology

Submitted to the School of Management
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Signature of Author ............................................................

School of Management
May 18, 2000

Certified by .................................................................

Russell Olive
Senior Lecturer
Thesis Supervisor

Accepted by .................................................................

Margaret Andrews
Executive Director of the Sloan MBA Program
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ABSTRACT

Massively multiplayer (MMP) games are the most lucrative segment of the Internet gaming market, which is the fastest growing segment of the entire computer game and videogame market. Currently, the MMP game market is dominated by three game developers: Turbine Entertainment Software, Verant, and Origin, a division of Electronic Arts.

MMP games are costly to build, and require cutting-edge technology and ongoing support. However, in addition to the retail revenue that standard computer games earn, MMP games also bring in a monthly fee from each customer. Unfortunately, while large, the MMP game market is limited because only avid computer gamers value the MMP game experience enough to pay monthly fees.

However, in the United States alone, 100 million people play board games and card games, creating an enormous market for leisure computer games like chess, checkers, and blackjack. Companies like Uproar, Gamesville, and Pogo.com have capitalized on this opportunity. Their mainstream customers demand to play for free, so these companies make a profit through web advertisements, keeping their costs down, and high volume. These games are not massively multiplayer.

There is an opportunity to combine the two fields – to make a MMP game that has mainstream appeal. For a company like Turbine Entertainment Software, whose successful game Asheron’s Call – written for avid computer gamers – has dominated the MMP game market, is this a real opportunity? What are the customer appeal factors, industry drivers, and market trends that would make this hybrid game a success? What are the vertical channels and partnering opportunities that will allow Turbine to self-publish its games, host a web site portal, and own the customer relationship directly instead of through a third party? Can Turbine become a highly valued “hot” Internet company?

This thesis is a business plan that lays out the market opportunity, a strategic vision for Turbine, a competitive study, company management, and an action plan including risks. This business plan will be used for due diligence for Turbine’s next strategic round of financing.

Thesis Supervisor: Russell Olive
Title: Senior Lecturer
BIOGRAPHY

Jonathan Monsarrat, Turbine’s Director and Founder, and Consultant to Turbine, is an entrepreneur and technology visionary with 10 years experience in the software engineering industry. Mr. Monsarrat previously served as Turbine’s Chairman, CEO, and Chief Technology Officer. He was most recently Director of Bioinformatics at AlphaGene, and was previously principal software engineer at Genome Therapeutics, a biotechnology company. Mr. Monsarrat is an applicant for an M.B.A. from the MIT Sloan School of Management. Previously, he earned a B.S. in electrical engineering from MIT, where he was active in the MIT Artificial Intelligence Laboratory. He has completed the academic requirements for a Ph.D. from Brown University, where he received the President’s Award for Teaching. Mr. Monsarrat has 15 years experience in large-scale live roleplaying games. As a consultant to Turbine, he leads the company’s vision for the future of Internet gaming and leads the development and writing of the company’s business plan. Mr. Monsarrat has a web page at <http://www.monsarrat.com>.
ACKNOWLEDGEMENTS

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This work is dedicated to Amy Wiseman
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Executive Summary

The Market: Massively Multiplayer Games

Online games refer to any entertainment software played over the Internet, primarily on a PC. Online games are the fastest growing segment of electronic entertainment, according to Data Monitor, which predicts explosive growth from sales of $82m in 1999 to $4.9b by 2004. Jupiter Communications also predicts explosive growth, pegging the market at $1.1b by 2002. Massively multiplayer (MMP) games are an emerging submarket of online games, using a brand new technology to allow more than 100,000 customers to interact in a persistent virtual fantasy world. Unlike typical online games, MMP games allow closer social interaction, so that a community forms. This social element makes MMP games compelling to borderline gamers. Cyber Dialogue reports that 29% of people who go online have played online games, and almost half of these are women.

Like traditional standalone games, MMP games are created by a game developer, which develops software technology and adds artwork and game design content. A publisher manufactures and distributes a retail box. However, MMP games generate ongoing revenue as well as retail sales, because the publisher maintains a web site and charges customers a monthly fee to play. Like a museum adding new exhibits, the game developer creates ongoing content, which can drive customers to play the game for years. The market drivers for MMP games include Internet technology for servers and networking, community, interactivity, gaming in groups, ongoing content, and the ability for players to gain status and show off their status to others.

The Industry, the Technology, the Company, and its Product

Turbine Entertainment Software is an Internet startup founded in 1994 to create massively multiplayer (MMP) games for the soon-to-come Internet revolution. Based in Westwood, Massachusetts, under CEO Ed Barron, the company employs 55 people—primarily programmers, artists, game designers, and testers. In November 1999, Turbine released its first product, an MMP game for regular computer gamers, Asheron’s Call, which was published by Microsoft. By the end of April, 72,000 units had sold retail at $50, and 57,500 active players were paying $10 per month for the ongoing service of playing the game. Asheron’s Call has won wide acclaim from the press, with 18 awards, including three Game of the Year awards, several Online Game of the Year awards, and also Technical Achievement of the Year. Turbine will leverage the success of Asheron’s Call by growing in two markets.

Turbine’s First Market: Massive Multiplay for Gamers

Including Asheron’s Call, MMP Games for Gamers are a rags-to-riches story. Each player guides a character through a 3D magical fantasy world, starting as a lowly apprentice but gaining experience and money and finally becoming a master of magic or swordfighting. Because these games can encompass 100,000+ players, a community forms, with players joining groups and taking part in team vs. team gameplay. Only three companies have produced hit games in this market: Turbine with Asheron’s Call, Verant with EverQuest, and Origin with Ultima Online. Turbine’s game leads the market in customer appeal, incorporating deeper content, and incorporating Internet technology for servers and networking that hide the Internet’s inherent hiccups of bandwidth and delay. Turbine also has stronger content tools, allowing the gameworld to be updated inexpensively and without halting gameplay.

Turbine’s strategy is to grow horizontally, producing several more MMP games for gamers. Additionally, Turbine will grow vertically into server farm management and greater responsibility for community management. Turbine’s next games in this market will feature even better technology to facilitate community-building, allow players to create their own game content, and continue to push the envelope in Internet technology.

Turbine’s Next Market: Massive Multiplay for the Mainstream

Although the market for customers who regularly play games is immense, there exists an even broader market of mainstream leisure gamers. According to Forrester Research, 19% of US online households play games online at least once a month, with a “potentially huge” target audience, since over 100 million people play card and board games. Typical mainstream online games include puzzle games, like crosswords, board games like checkers, or card games like blackjack. With a modified version of the Asheron’s Call engine, Turbine is uniquely positioned to
produce a new type of mainstream game: “outdoor” games like Capture the Flag, Easter Egg Hunting, and 3D Mazes. These games will be more interactive, more visual, and build communities better than traditional online mainstream games. Turbine will self-host its own web site, performing web marketing and web community management, in addition to its traditional role of creating the technology and content for the game. Thus Turbine will grow vertically, gaining a greater share of revenue, and relying a little less on a publishing partner, which in this market would be a major web portal such as Yahoo.

Unlike regular computer gameplayers, mainstream customers will not pay a monthly fee for online games. Thus MMP games for the mainstream generate revenue through web advertisements, targeted by user data. Instead of buying the game retail, mainstream customers expect to quickly download the game for free. In typical mainstream online games, tournaments and rankings give players reasons to interact. Turbine will go further, creating technology for and gameplay reasons for players to interact, and for groups of players to interact. Mainstream game sites like Gamesville and Pogo.com have proven to be among the “stickiest” sites on the Internet, holding customers’ attention for hours at a time. This makes mainstream games immensely valuable to the major portals, Yahoo, Lycos, and Excite. Turbine’s strategy is to refine its Internet technology and community-building technology for the mainstream. By producing a new and better type of mainstream game, Turbine both decreases competitive pressures and opens up opportunities to sell games to major portals that already have board games and puzzle games.

Management

Ed Barron, President and Acting CEO, brings 30 years of management experience to Turbine. Formerly, he was COO of Inspex, and General Manager of Digital Equipment Corporation’s disk and subsystems business of $2b in revenue. Mark Pover, Chief Financial Officer, brings 13 years of management experience to Turbine. Formerly, he was Executive Vice President of EON Reality, Inc., where he headed up Operations, Accounting, Finance, Taxation, and Human Resources, worldwide. Timothy Brennan, Executive Vice President, Engineering, formerly worked at Microsoft in the Windows/NT group. He has been named a Royce Fellow in recognition of his research work in parallel and distributed systems, and was awarded a Microsoft scholarship for excellence in computer science.

Action Plan

In 2000, Turbine will sign an Asheron’s 2.0 contract, an MMP game deal for Resurgence, and the first toolset licenses. In 2001, Turbine will release Asheron’s Call 2.0 into Beta, and ship Resurgence. In 2002, Turbine will ship Asheron’s Call 2.0, the mainstream MMP game ClubHopper, sign a deal for Resurgence 2.0, and sign a third MMP game deal.

Risks

Any software venture will involve risks. Turbine acknowledges these risks, actively seeking ways to reduce risk, and to build contingency plans. Turbine will need to build a management structure, and hire employees quickly in a period of rapid growth and success. To host its own web site, Turbine will need to build a competency in web marketing and web community management, thus building on its core base of technology and content. Turbine will continue to improve its state-of-the-art Internet technology, with web integration and reduced server costs being the largest hurdles to leap. Like other software companies, Turbine also faces the risk of missing its development schedules, and competitive risks. Because Turbine produces games, and only hit games make money, there is the risk that Turbine will not produce “hit” games. Turbine addresses this last risk by customer appeal testing, and by choosing the high-tech MMP market, where technology, which is more easily judged than content, provides a greater share of customer appeal. Turbine is also moving into licensing tools, and into mainstream entertainment products, both of which have less “hit game” risk.
The Industry, the Technology, the Company, and its Product

The Company

Turbine Entertainment Software is an Internet startup founded in 1994 to create massively multiplayer computer games for the soon-to-come Internet revolution. The firm, headed by founder Jon Monsarrat, originally started as an offshoot from Brown University in Providence, Rhode Island. The firm moved to Westwood, Massachusetts, on the Rt. 128 high-technology beltway around Boston. Today, under the leadership of CEO Ed Barron, Turbine employs 55 people in Westwood, Massachusetts, including management, software engineers, artists, game designers, game community managers, internal computer support, and quality assurance staff.

Corporate Strategy

Turbine’s long-term strategy is to dominate both segments of the MMP game market, by hitting the key market drivers and exploiting market trends. Turbine’s specific plans, and the details of these markets, follow.

MMP Games for Computer Gamers: Turbine leads the market today

Turbine’s efforts to date have made the company the foremost game developer in this market. Turbine is at the forefront of both technology and content with the release of its recent best-selling game *Asheron’s Call*. Turbine’s strengths in technology, game design, and community management will keep Turbine the market leader in this field.

MMP Games for the Mainstream: Turbine’s next conquest

Turbine plans to enter this space after a round of strategic financing. Turbine’s MMP technology will give the company a competitive edge against relatively low-tech competitors in this space.

First Product: Asheron’s Call

In November, Turbine launched its first product, the massively multiplayer game *Asheron’s Call*, published by Microsoft through the Microsoft Internet Gaming Zone. *Asheron’s Call* is a serious roleplaying game with 3D computer graphics, intended for computer gamers. By the end of April, 85,000 units had sold retail at $50, and 60,000+ active players paid $10 per month for the ongoing service of playing the game. Microsoft has since lowered the retail price to aid market penetration.

Players who enter *Asheron’s Call* discover a virtual fantasy world based on a tropical island, where heroes with swords and armor battle monsters to survive, and to discover buried treasure. See the appendices for a full description of *Asheron’s Call* gameplay. *Asheron’s Call* has won wide acclaim from the press, and several industry awards:

- #1 Best-Selling Game of November, 1999, *Chips & Bits*
- Game of the Year, 1999, *Game Industry News*
- Gaming Globe Award, Best Game of the Year, 1999, *Eurogamer*
- Reader’s Choice: Game of the Year, 1999, *Gamezilla*
- Best Online / Multiplayer Game of the Year, 1999, *Gamezilla*
- Best Roleplaying Game of the Year, 1999, *CNET’s GameCenter*
- Best Multiplayer Game of the Year, 1999, *Electron Games*
- Finalist, Online Game of the Year 1999, *Computer Games Magazine*
- Nominee, Best Multiplay Game of 1999, *PC Accelerator Magazine*
- Nominee, Best Roleplaying Game of 1999, *Computer Gaming World*
- Nominee, Best Product in Games, 1999, *Software & Information Industry Association*
- Outstanding Technical Achievement 1999, *Vault Network*
The Market: Massively Multiplayer Computer Games

One of the fastest growing segments of the electronic entertainment market is the massively multiplayer (MMP) market. Within Internet games, MMP games best leverage the interactivity of the Internet, by bringing together up to 5 million players in a compelling online community.

Electronic Entertainment

Description
Electronic entertainment is a broad market where customers have fun with software. Customers comfortable with computers, typically young males, seek complex an active experience not offered by movies, and special effects not offered by board games. Computer game developers are software companies with strengths in game design. The market is well-segmented by hardware incompatibility into four sections:

- Arcade machines have expensive, flashy hardware placed in a retail location.
- Game consoles are cheap, special-purpose gaming computers, like Sega’s Dreamcast or Sony’s Playstation.
- PC games target customers who already own a computer. This more powerful platform allows PC games to be more sophisticated than console games.
- Set-top boxes, an emerging platform, are inexpensive computers for broadband Web surfing that will merge with game consoles.

According to Gameweek Magazine, the total videogame market rose from $5.4B in 1998 to $6.1B in 1999, and the total PC entertainment market rose from $1.2B in 1998 to $1.4B in 1999. PC Data reported that PC game sales were $1.3B for 1999.

Appeal

- **Content.** Customers play games for the experience. The game must be fun.
- **Visual Appeal.** Flashy computer graphics is a top factor in the decision to buy computer games.
- **Ease of Use.** The game must be easy to learn, and easy to play. Otherwise, it feels like playing tennis with a lead racket.
- **Other Software Technology.** Although “content is king,” technology is a fundamental factor affecting gameplay. The game should be bug-free and run quickly. Game developers need professional software management skills.
- **Production value.** Beyond quality of technology and content, gamers expect a large quantity of production: more artwork, more testing, and more game content. This creates a cash barrier for developers.
Other drivers and trends

- **Synergy.** The best games companies have programmers and creative staff who can work closely to share a vision.
- **A hits-based business.** The top few games earn the most profit. But, as with movies, no one can spot a hit game in advance. This adds a creative risk. Developers reduce this risk with experienced created staff, customer testing, branding, and production value.
- **Promotion.** Game developers must typically team with game publishers for the cash and expertise to go mass-market.
- **Distribution.** Retail shelf space competition is intense, making game publishers with established distribution channels even more necessary for game developers.

Internet Computer Games

**Description**

Recently, a new segment of electronic entertainment has appeared: Internet computer games, known as online games or multiplayer games. Online games are primarily limited to PCs, although there is a small and growing console market as well. Game players can shoot weapons, race cars, or fly airplanes with friends connected through their modems to the Internet. Nearly all Internet games are limited to sixteen simultaneous players, though a few have loose communities of millions. According to The Industry Standard, of the top 20 best-selling PC games of August 1999, 15 incorporated some form of online group play.

Online games are the fastest growing segment of electronic entertainment, according to Data Monitor. Online game sales, excluding gambling were $82m in 1999, and Data Monitor forecasts sales of $640m with 12m players in 2000, over $1B by 2002, and to 24m. Jupiter Communications also puts the online game market at $1.1B by 2002.

Because online games include a social element, they have a broad appeal outside traditional computer gameplayers. Cyber Dialogue reports that 29% of online people have participated in online games, and almost half of these are women. According to Forrester Research, 19% of US online households play games online at least once a month. Online game players are not just teenage boys – 48% are women, and 63% are between the ages of 25 and 44. Among young people, 57% play games online, averaging 3 hours a week. Entertainment sites rank among teen and young adults’ favorites, with sites like Disney, Sony, Viacom Online, ESPN, and CBSSportsline consistently placing in the top 50 domains favored by this age group.

**Appeal**

- **Player-Player Interactivity.** Internet games fascinate customers for the real-time interactivity with real people. However, interactivity is a new paradigm for game design, which takes vision to handle well. This provides an opportunity for visionaries.
- **Player-World Interactivity.** The player should be able to interact closely with objects in the game world.
- **Social.** The best Internet games allow a closer interaction than shooting guns. Rather, the game becomes a value-added chat experience.
- **Internet Technology: Networking.** Internet delays and bandwidth limitations make some Internet games frustratingly slow. Customers place high value on fast communications technology. Internet games companies must cross technology barriers and provide reliable, high performance services.
Other drivers and trends

- **Rapid growth.** Demand for multiplayer games is booming, decreasing competitive pressures. However, companies must respond flexibly to the Internet’s rapid changes.

- **First-mover advantage.** Game players and game publishers actively seek the games first to market with a new concept. The first developer with the “next thing” has the opportunity to take market leadership and use that running start to stay ahead of the competition.

Massively Multiplayer (MMP) Games

**Description**

Internet games that allow thousands, or millions, of players to interact are called massively multiplayer (MMP) games. They allow virtual communities, where customers can not only interact, but make friends over time. Each game experience is an investment in a social community. Using a newer and harder technology, MMP games are well adapted to take advantage of the Internet’s appeal.
There are two primary kinds of MMP games:

- **MMP Games for Computer Gamers.** Sold retail and with a monthly service fee, these are complex roleplaying games with 3D computer graphics that only regular computer gamers feel comfortable playing. This complexity allows a rich and wide variety of interactions between players and groups of players. Each player designs and names a character, which enters a virtual reality fantasy world. This world is "persistent": instead of starting from scratch, every game is a cumulative episode in that character’s life, and a rags-to-riches story progress as players gain status and make relationships.

- **MMP Games for the Mainstream.** Downloaded and played for free, but with advertisements, mainstream Country Party MMP games appeal to customers who do not play computer games, but enjoy leisure games such as checkers or blackjack online. There is no persistent, 3D virtual world. Instead, players interact through a web site with a suite of several simple games.

MMP Games are a brand new form of entertainment, offering the social community of a country club with the flashy, compelling entertainment similar to movies and computer games.

### Vertical Chain for MMP Games

MMP Games require a complex partnerships to provide a whole solution to the customer. There are five primary tasks:

- **Game developers,** like Turbine, are high technology software companies, which build the underlying software necessary to run an online game. These companies typically also create the content for the game: the game design and the artwork. The final product is a complete computer game that is ready to be played.

- **Publisher.** If there is a retail package, the publisher manufactures it and uses their established distribution chains to get the box into retail stores. They run a phone center to handle installation and billing questions.

- **An Online game service** aggregates the games from several developers into a single web-based service. It’s a "one-stop shopping" location for customers to find games. They must be expert web marketers and web site maintainers.

- **Ongoing support** is required to keep customers returning to the game again and again. Acting like summer camp counselors, the ongoing support staff breaks up fights and holds events so every customer has something to
do. Similar to how a museum keeps adding new exhibits, the ongoing support personnel are continually adding new content to the game.

- **Up-front Cash.** Someone must provide the up-front cash for the development of the game. Typically, the publisher does this. However, game developers who can afford their own development have more negotiating power when discussing branding and royalties with a publisher.
Turbine’s First Market: Massive Multiplay for Gamers

Market

Description
Massively multiplayer (MMP) games targeted for regular computer gamers provide the high quality that sophisticated gamers expect, but with an online community of up to 200,000 players. At first, a game like Asheron’s Call looks like a roleplaying game. Each player designs and names a character, which enters a virtual fantasy world. The player uses the keyboard and mouse to move that character through the virtual world, seeing what the character sees with 3D computer graphics. The game is not played through a web browser: it looks like a standalone game. However, players log on and log off with a web browser, so that customer entering or exiting the game may get caught up in the web community of the online service provider – the Microsoft Internet Gaming Zone, for example.

Ignoring the community aspect, the point of the game is exploration and self-improvement. It’s a rags to riches story, where each character begins with no money and no status in the game. Then the player moves the character into an underground cavern, and discovers a secret treasure with a monster guarding it. The heroic character dispatches the monster, takes the treasure, and uses the money to buy better weapons, so the next adventure can be even more dangerous and even more profitable. This genre of game is called a roleplaying game, and for this reason, these games are sometimes called Massively Multiplayer Online Roleplaying Games (MMPORGs).

With the community aspect taken into consideration, the real point of the game is to interact with and become accepted in the game’s community. Because the game has over 100,000 players connected through the Internet, players can form teams and go adventuring together. With a community of hundreds of thousands of players, players can form groups and complex social structures, such as master and student, or two large families with a vendetta against each other. Every gaming session is an investment in a social environment that ultimately yields friendship and prestige for the player’s in-game accomplishments.

MMPORGs are also unusual because they are “persistent worlds”. Unlike chess, where players have to reset the pieces at the end of every game, persistent worlds never get reset. The game world, with its thousands of players, continues whenever any individual player logs off. There are monsters to fight and adventures occur in real-time in that player’s absence, until that player logs on again. The game sessions create an ongoing story that never ends, as the player’s character gains more money, more items, and more skill – which translate into status in the online community.

See Appendix A for an example of a player’s experience in the game.
Appeal

MMPORGs are a submarket of Internet games, so the appeal factors from Internet games and all electronic entertainment apply. A good MMPORG game must allow close interaction between players, including social interaction, and have a high production value. Additional appeal factors include:

- **Community.** Like golf clubs or summer camps, MMP games offer a social meeting place. Unlike most Internet games, where players primarily meet strangers in situations where interaction is limited (like driving racing cars), MMPORGs allow deep and complex social transactions and arrangements. Players tend to meet people they’ve met before, building friendships.

- **Players Gain Status.** Every player will have a degree of success in the game, both at a basic level (fighting monsters) and at a social level (interacting in groups). This success translates into status, as players acknowledge each other’s accomplishments. The game must constantly provide feedback that the player is improving and achieving more and more – for example, through statistics or through the acquisition of game money or game items. Players must feel that there is always a greater goal to strive for; they never run out of challenges.

- **Individuality.** Similar to owning a car, owning a character in an MMPORG makes a personal statement. Customers love to craft their online character to match their personality. For example, in Asheron’s Call, players can choose from among billions of possible combinations of hair style, clothing, and ethnicity. Characters should be able to possess items and skills in detailed and complex ways that distinguish them from others, with visual cues to make this obvious to strangers.

- **Gaming in Groups.** In a game of chess, a black knight and white pawn can fight each other, but each is part of an entire team of chess pieces. Similarly, in MMPORGs, each player can join one or several groups, each of which has a team goal. The game should facilitate complex social contracts and interactions, making the game feel more rich. Regular computer game players are familiar with roleplaying games and are comfortable with the new concept of online group gaming, sometimes called “meta-gaming”.

- **Big Picture Storyline.** Although players in groups will find things to do in the game – for example, group rivalries played out through resource competition – a good MMPORG will have an explicit game for groups, where the goals are obvious and success or failure can be measured. For example, in chess, the big picture goal is to defend your king while attacking your opponent’s king. That is much more compelling than having the chess pieces roam at random, attacking each other in one-on-one battles that do not cumulatively build a team success.

- **Ongoing Support and Content.** Like a museum, which attracts repeat business by regularly adding new exhibits, MMPORGs need new content regularly so that experienced players continue playing the game. Customer support representatives oversee the online game, running events and resolving disputes in the gameworld.

- **Automated Content.** The game’s developers cannot have a one-on-one content experience with each of up to 200,000 customers. The game should also autogenerate content, guided by the game developer’s content staff, in a complex way that partially hides the machine-like nature of the new content.

- **Player-created Content.** Players love to add to the story, especially through group rivalries and by creating puzzles or setting up mazes for other players. Creating content is entertaining for the creator, entertaining for others, and builds status and individuality for the content creator. Unfortunately, MMPORGs are so complex that it is impossible to give customers the deep control over content that game developers have.

- **Internet Technology: Servers.** To get the deepest experience, players want to forget that they are playing a game. Flashy, 3D computer graphics are only one part of this. MMPORGs are virtual reality environments, supported by a server farm with a database supporting up to 50,000 simultaneous players, over the tight bandwidth of a 28.8k modem. Achieving a smooth experience with these limitations, as players roam freely across a virtual world that may be hundreds of square miles across, is an enormous technical challenge.

Other drivers and trends

- **Time investment.** Because making friends and building a reputation takes time, players who spend more time playing the game enjoy it more. The average player of Ultima Online spends 20 hours a week on the game. Unfortunately, this means that the full benefits of an MMPORG may not be obvious to a potential customer trying the game for an hour, or to customers too busy to spend more than a couple of hours a week in the game. Thus, MMPORGs should include short-cuts and time-savers to enhance the gameplay of brief sessions.

- **Incentives.** Unruly customers can spoil the game experience for others. A good MMPORG must provide incentives, with game balance, and with community management staff, so that players create good game experiences for each other.
- **Longevity.** Most PC games are purchased, played for only 20-30 hours over 2-3 months, and then forgotten. MMPORGs are very different – players may play for years, especially if the game’s developer invests in ongoing content and technology upgrades.

- **High switching cost.** Building relationships and gaining status in a community takes time. Once a customer has grown attached to one MMPORG game, he or she is unlikely to switch to a marginally better competitor. Thus, MMPORG developers get a first-mover advantage, locking in many customers by being first to provide a new technology, especially if it is well-promoted to gain market share quickly.

- **Ongoing production in all game aspects.** To retain customers – and their lucrative monthly fees – MMPORG developers must manage the community and produce additional content. This is very different from standalone games, where development work basically stops when the gold master is created and the game is boxed for sale. Publishers of standalone retail games typically make a big splash with advertising and promotion when the game is first released, and then abandon the product in six months as new games take the spotlight. Because MMPORGS have long-term appeal, and do not fade from customer favor as quickly as standalone games, publishers should continue to advertise and promote the game on an ongoing basis.

### Revenue Model

Similarly to standalone games, MMPORGS are sold retail – like any major game, they contain large quantities of artwork and software that for practical purposes cannot be downloaded over a modem. This retail revenue is shared with the game’s publisher who then pays a royalty to the game developer.

However, unlike standalone games, MMPORGS have an additional source of revenue – monthly service fees.

To access the game, the customer must first use a web browser to connect with the MMPORGS hosting online game site. The web browser then “goes to sleep” while the game runs – MMPORGS are not web browser games, but professional standalone 3D games with their own user interfaces. However, because the customer sees the web environment when entering and exiting the game, there are additional sources of revenue:

- Web advertisements
- User data, which is collected when the customer registers for the game, may be sold, or used to target web advertisements. Targeted web advertisements generate more revenue than unspecific web advertisements.
- Web marketing opportunities, such as luring the customer into co-promotions, affiliate marketing purchases, or playing other games on the site.

Although MMPORGs generate more revenue than standalone games, or normal Internet games, MMPORGS are much more expensive to create. This is because the MMPORG virtual world must be rich and large enough to hold and entertain up to 200,000 customers, perhaps 50,000 of whom will be logged on at any given time. It is much like building an amusement park, where people can roam around freely, rather than a movie set, which only needs storefronts that the camera films.

Turbine’s first game, *Asheron’s Call*, is published by Microsoft, who sells the game retail for $49.95 and charges a flat monthly fee of $9.95 to play.

MMPORGS provide greater value to the customer than standalone games or regular Internet games. A typical standalone game is bought for $60 and played for 20-30 hours. That’s about $3 per hour, the approximate cost of
watching a movie. MMPORG are played on average 80 hours per month for a $10 charge. That's only $0.12 per hour.

Yet, MMPORGs are among the most lucrative games in the PC game market. There are only three major MMPORGs currently, including Asheron's Call, and several minor ones, perhaps totaling 500,000 players in total. However, because each player spends $10 a month to play, those low retail sales add up to large ongoing revenues.

According to PC Data and ZDNet News, during 1999, the MMPORG games Ultima Online and EverQuest earned similar revenues to Diablo, Command & Conquer, and Deer Hunter - each of which was a hit game in the top 10 best-selling PC games of 1998 or 1999. According to The Industry Standard, the game Deer Hunter, for example, held a top-five spot in PC Data's list of best-selling PC games for six months during 1998. EverQuest earned more revenues in its first half-year. With only 150,000 active customers, EverQuest's monthly fee of $10 brings in $1.2m monthly from the game. These revenues must of course be offset by the ongoing costs to maintain an MMPORG. Standalone games do not have ongoing costs – development ends when the game is first packaged for sale.

**Competition**

Although non-commercial MMP games for computer gamers have existed since the 1980s, only recently has the Internet explosion created a customer base large enough for publishers to commit to a fully featured, “A” title game in this market. Currently, the MMP market for regular computer gamers is dominated by MMP online roleplaying games called MMPORGS. There are only three major games in this category, all based in the fantasy genre: Verant's EverQuest (1999) and Turbine's Asheron's Call (1999), followed by the older and less glamorous Ultima Online (1997). All three companies are working both on “expansion packs” to the existing game, and to full sequels. Additionally, major new MMPORGS are expected in 2001, including some games outside the fantasy genre. Additionally, some real-time strategy games are being adapted for massive multiplay.
### Major Market Drivers in the MMP Game Industry

<table>
<thead>
<tr>
<th>Market Driver</th>
<th>Asheron’s Call</th>
<th>EverQuest</th>
<th>Ultima Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Internet Technology: Networking</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Internet Technology: Servers</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Player-Player Interactivity</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Player-World Interactivity</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content: Roleplaying &amp; Combat</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Visual appeal</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individuality</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big Picture Storyline</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Players Gain Status</td>
<td>✔</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Individuality</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaming in Groups</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ongoing Support &amp; Content</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Player-created content</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ease of Use</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MMP games for computer gamers compete for the customer’s entertainment dollar with a variety of other products:

- Distantly, they compete with movies, board games, and going out to dinner.
- More closely, they compete with other games for computer gamers – which lack massive multiplay or lack Internet capability.
- MMP games for computer gamers (MMPORGs) and MMP games for the mainstream (Leisure Games) are separate markets, not directly competing because few consumers are attracted to both types of game. However, there is a middle ground between the two that has not been developed: MMP games for special interest groups who may be borderline computer gamers.

With its unique Internet vision and cutting-edge technology, Turbine has positioned itself as the leader in the top two features that make MMPORGs compelling: Internet technology and community.

*Asheron’s Call* is a more complex game, with deeper gameplay and better community appeal. *EverQuest* is more of a combat game than a community game, and may not retain players as well as *Asheron’s Call* over the long-term. Lacking 3D graphics and without advanced gameplay, *Ultima Online* lags a distant third.

**Asheron’s Call (1999)**


**Advantages:**

- **Long-term retention.** *Asheron’s Call* is the first MMPORG to break with tradition, pioneering the space by designing wholly fresh concepts in community and interactivity. Its predecessors, *EverQuest* and *Ultima Online*, essentially added computer graphics to an old style of gameplay and accepted the limitations and flaws of that medium. As a result, gameplay on Asheron’s Call is more compelling in the long-term – there is less repetition, and more possibilities for group behavior and interaction.
- **Landscape computer graphics.** Turbine’s computer graphics engine depicts the landscape of *Asheron’s Call* in great detail, allowing players expansive vistas of mountains, lakes, and forests.
- **Technology.** Asheron’s Call also pioneers technology, with cutting-edge computer graphics for drawing landscapes, and a client / server technology that allows players to travel across the world without annoying delays for data transfer. Updates to the game can be made without shutting down gameplay.
- **Wider appeal.** Only the most fanatic gamers play Ultima Online. Asheron’s Call has wider appeal, and an easier learning curve than EverQuest.
- **Make a personal statement with appearance.**
  The appearance of characters in Asheron’s Call are much more configurable than its competitors. Players never bump into someone else who looks exactly the same. Trillions of possible combinations of hair style, ethnicity, clothing, and armor create an individual look that lets customers make a personal statement to the community. The system for building a character’s abilities and tradecraft is more flexible than its competitors.

**Disadvantages:**
- **Monster computer graphics.** Choosing flexibility over detail, Turbine created a computer graphics engine that renders characters and monsters with fewer polygons than *EverQuest.*
- **Marketing.** Microsoft has not supported *Asheron’s Call* with the same level of advertising and promotion as its competitors’ publishers.

Details on the competitive advantage of Turbine’s technology and gameplay follow.

**EverQuest (1999)**

**Advantages:**
- **Monster computer graphics.** *EverQuest’s* models for monsters and humans have more detail, at the cost of flexibility so that two players often look like one another.
- **Wider appeal.** Only the most fanatic gameplayers play *Ultima Online. EverQuest* has wider appeal, although it comes with a difficult learning curve.
- **Marketing.** Sony has marketed *EverQuest* heavily, finding some appeal even outside regular computer gamers.

**Disadvantages:**
- **Discontinuous world.** *EverQuest*’s virtual world is a large one, but it is broken into discontinuous zones. Players must wait for data to download when crossing from one zone to another. Unlike *Asheron’s Call, EverQuest* must be shut down for content to be added.
- **Landscape graphics.** The scenic vistas on *EverQuest* are not as detailed or expansive as in Asheron’s Call.
- **Generic theme with no branding.** *EverQuest* is designed around well-known fantasy creatures such as dwarves and elves. Although this shortens the learning curve for players familiar with these creatures, by lacking original content *EverQuest* is not building a brand for its gameworld inhabitants.
Ultima Online (1997) & Ultima Online: The Second Age (1999)

Developed by Origin, a division of Electronic Arts. Published by Electronic Arts. Retail price: $20. Flat monthly service fee: $9.95. Sales: 225,000 units since September, 1997. Active subscribers: 175,000. Game information at: www.uo.com. Ultima Online: The Second Age is an expansion pack that adds new territory and creatures to the game world but is essentially the same game.

Advantages:

- **First to market.** Ultima Online pioneered the MMPORG market, becoming the first commercially successful MMPORG.
- **Large, continuous world.** Unlike EverQuest, Ultima Online takes place in a large virtual world without zones to cause user delays when walking across the world.
- **Player-created content.** Players in Ultima Online can own and decorate their own houses. This allows players a form of self-expression, a way to gain status, and is linked with the gameplay.
- **Strong brand.** The “Ultima” brand is well-known to regular computer gamers. Nearly a dozen games have been made with the Ultima brand in the last 15 years.

Disadvantages:

- **Computer graphics.** Ultima Online lacks any form of 3D graphics, instead having a checkerboard-like 2D appearance.
- **Serious gamers only.** Ultima Online lacks restrictions on players killing other players. A large portion of Ultima Online involves gathering resources and building items to sell in the economy – a complex form of gameplay. Both factors make Ultima Online accessible only to serious gamers.
- **Loose community integration.** Ultima Online takes its gameplay style directly from non-commercial games, including the limitations that old-style play has towards forming a tight community.

Asheron’s Call – an Expansion Pack


This is an expansion pack for Asheron’s Call, currently in final negotiations with Microsoft. There may or may not be a separate retail package for the expansion.

EverQuest: Ruins of Kunark – an Expansion Pack (April 2000)

Developed by Verant. Published by Sony. Web site: www.everquest.com. Download over the Internet for $16.95, as well as a retail package sold in stores.

This is an expansion pack, for release in April 2000, that adds new content to the original EverQuest. Players will be merged with the original EverQuest game into one big game. To be released a year after the original EverQuest, it is not so much a new game as an excuse for Sony to heavily market the original EverQuest. The expansion will add new monsters and new territory to the virtual world. There will only be a modest technology upgrade: some improved computer graphics.

Ultima Online: Renaissance – an Expansion Pack (April 2000)

An expansion pack for the original Ultima Online. Playing catch-up to EverQuest and Asheron’s Call, this add-on to Ultima Online will include a number of new features, although the old 2D computer graphics system will remain. The size of the game world will double, and finally newcomers will have some protections from being killed by experienced players.
Other MMP Games for Gamers, In Development

<table>
<thead>
<tr>
<th>Game</th>
<th>Developer / Publisher</th>
<th>Genre / Comments</th>
<th>Ship Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anarchy Online</td>
<td>Funcom / ??</td>
<td>Science fiction theme. They have no publisher, yet.</td>
<td>2001+</td>
</tr>
<tr>
<td>Dark Sector</td>
<td>Digital Extremes</td>
<td>Post-apocalypse theme. From the makers of the best-selling Unreal combat game.</td>
<td>2002+</td>
</tr>
<tr>
<td>Motor City</td>
<td>Electronic Arts</td>
<td>A racing car game with 1950s muscle cars</td>
<td>2001+</td>
</tr>
<tr>
<td>Resurgence</td>
<td>Turbine / ??</td>
<td>Post-apocalypse theme. No publisher, yet.</td>
<td>2001</td>
</tr>
<tr>
<td>Sim City Online</td>
<td>EA / Maxis</td>
<td>Simulation of developing a frontier town into a booming city</td>
<td>2001+</td>
</tr>
<tr>
<td>Sovereign</td>
<td>Verant / Sony</td>
<td>Real-time strategy. World is not persistent – it is reset at interyals.</td>
<td>Fall 2000</td>
</tr>
<tr>
<td>Star Trek Online</td>
<td>?? / Activision</td>
<td>Science fiction based on well-known IP. Most likely developer is Turbine.</td>
<td>2002</td>
</tr>
<tr>
<td>Star Wars Online</td>
<td>Verant / Sony / LucasArts</td>
<td>Science fiction from well-known IP.</td>
<td>2001</td>
</tr>
</tbody>
</table>

Asheron's Call 2 (2002)

Developed by Turbine. Published by Microsoft.

Currently in final negotiations with Microsoft, AC2 will be a new game with an entirely new legion of monsters to fight, territory to explore, and major new storylines. As the industry leader in technology, Turbine will push hard and keep their edge with the next generation of technology.

Ultima Online 2 (2001?)


Ultima Online 2 is an entirely new game, and a sequel to Ultima Online. Both Ultima Online and Ultima Online 2 will run at the same time – players will not be able to migrate their characters from one game to the other. Although press releases have promised that Ultima Online 2 will contain 3D computer graphics, the industry rumor is that Origin is struggling with the computer graphics technology. A recent standalone roleplaying game from Origin, Ultima IX, contained a 3D graphics engine of poor quality. The game’s promised ship date of Fall 2000 is very likely to slip – there have not been the extensive screenshots and a period of beta testing that normally presage a game’s release.

Turbine’s Competitive Advantages

As a game developer, Turbine core competencies fall into two general groups. Turbine’s creative staff have a vision for social and Internet gameplay, making compelling content. This content is actualized by a suite of cutting-edge software technology, including Internet communications and content-creation. The market drivers most directly affected by Turbine’s core competencies are listed below.

A Vision for Community

Market Drivers: First-mover Advantage, Gaming in Groups, Community

In the changing world of the Internet, staying ahead of the competition requires a vision for new possibilities, and an understanding of what customers want. Before Asheron's Call, other MMP Games borrowed old interactivity models that hobbyists had invented in the 1980s. Turbine went the extra mile, introducing a variety of new features designed to give players incentives and software support to form a community. An “allegiance system” it allows a new player to become an apprentice to a more experienced player. Turbine’s system for magic spell-casting is
designed to draw players into interactions with each other. Asheron's Call is oriented towards giving large groups of
players the tools and motivations to gather and interact in a large all-game that encompasses everyone in the world
similar to how a political election involves all the voters. The company with the best vision tends to dominate
emerging Internet market segments; Turbine is that company in the MMP Game space.

Circumventing Bandwidth Limitations
Market Drivers: Internet Technology: Networking, Player-World Interactivity

As players roam around the world, they encounter people, objects, and buildings they have never seen before. This
information about the gameworld must be transmitted from the server to each customer's client through a low-
bandwidth modem. Turbine beats this problem with its proprietary client autonomy system, effectively creating a
language tailored for compressing gameworld events that are sent from the server to the clients. By pushing
calculations from the server to the client, less information must be transmitted through a customer's modem

Circumventing Internet Delays
Market Drivers: Internet Technology: Networking, Player-Player Interactivity

When players interact with each other, for example in a swordfight, they are moving around too quickly for their
positions to be transmitted across the Internet accurately. The Internet will always impose delay, called latency, for
transmissions across the country. Unlike competitive game developers, whose games seem to stutter and halt while
waiting for slow Internet transmissions, Turbine handles Internet latency with a proprietary client autonomy system.
This system gives the client permission to walk around, fight, and examine gameworld objects without immediate
server permission, with a well-tuned rule set that is always playing guessing games about the state of the world. This
hides delays, giving players the impression of smooth gameplay.

Servers that Scale Up & Balance Load
Market Drivers: Internet Technology: Servers, Community

MMP Games for Gamers must be able to handle up to 250,000 customers, of whom up to 50,000 may be playing
simultaneously. Servers are not free, so Turbine has targeted server efficiency and smooth scalability. Turbine's
software harnesses a "server farm" of several machines, using distributed and parallel software technology. Turbine's
cutting-edge load-balancing technology allocates servers to the regions of the gameworld that most
require calculations to be performed. If one server is overloaded, other servers pick up the workload. These
technologies together allow Turbine to create a single contiguous gameworld, which is allocated to servers
dynamically. Players may cross from one end of the world to the other without delays.

In contrast, Turbine's competitors break up the world statically, so that as players cross the gameworld, they must
endure long waits for new data to load. Additionally, competitors game servers are often overloaded, causing the
gameplay to slow down to a crawl. Asheron's Call avoids these problems, providing much smoother gameplay. As
MMPORGs grow from 100,000 customers to 1,000,000 customers, Turbine’s technology to scale up will
become a more and more important competitive advantage.

Live Updates
Market Drivers: Ongoing Support & Content, Internet Technology: Servers

Turbine's competitors need to halt gameplay to add new content to the game. All the users are kicked off the system,
and typically they do not want to wait idly for the system to come back up. Turbine's database system has been
designed to add new creatures, objects, and buildings to the gameworld dynamically, without stopping the servers
and halting gameplay. This gives Turbine's community managers much greater control over the game, while not
interrupting the customer experience.
Server Stability & Security
Market Drivers: Internet Technology: Servers

Turbine’s servers are both more stable and more secure than their competitors. When a server crashes, all players are forcibly dropped out of the game, and all their recent accomplishments are lost. Competitor’s servers crash far more frequently than in Asheron’s Call. Recently, competitor EverQuest has had problems with computer hackers who break in and alter the game. Turbine’s proprietary server technology was explicitly designed so that the customer’s client software is never trusted -- which makes this form of hacking impossible.

Computer Graphics
Market Drivers: Visual appeal

Asheron’s Call has won high praise from reviewers its computer graphics, especially the software that draws the landscape. In Asheron’s Call, a player may stand on a mountaintop and look out miles to the ocean, or to a valley with many towns. Competitors games employ a convenient “fog” to cover long-distance vistas. The fast-rendering computer graphics technology of Asheron’s Call makes gameplay more immersive and stimulating for players.

Computer Physics
Market Drivers: Player-World Interactivity

In the Asheron’s Call gameworld, objects can interact with each other. For example, when an archer fires an arrow, that arrow may strike a person, hit a building, or split an apple. The calculations of which object is hitting which object are called computer physics. Most games fudge these computations, which limits the interactions that players can have with the world. In Turbine, computer physics drives all interactions from a grassroots level. So players of Asheron’s Call take take actions impossible in competitive games: jump from one rooftop to another rooftop, climb on top of tables and ledges, throw objects through windows and down pits, just to name a few. This additional realism has a subtle, but powerful affect on the game’s immersiveness, drawing players deeper into the game experience.

Gameworld Development System
Market Drivers: Player-World Interactivity, Ongoing Support & Content

Turbine has developed The Genie System, a proprietary technology that allows new objects, and new types of object to be added to the gameworld in a smooth and simple fashion. MMPORGs come with millions of possible interactions between objects. Objects can be burned, thrown, locked and unlocked, activated, stored, and even eaten. So to add a new object to the game world, and specify each and every object-object interaction, is a painstaking task for competitor’s games. The Genie System circumvents this problem, by adding a software layer between the server and the player specifically for handling objects.

Content Tools
Market Drivers: Big Picture Storyline, Ongoing Support & Content

A third of Turbine’s employees are artists or game designers, creating content for a game. At competitors’ companies, content must be directly programmed, requiring programmers to be involved in the content-creation process. This is both expensive and time-consuming. Turbine circumvents this problem with a suite of content tools, directly targeted at liberating the artists and game designers to think creatively. These content tools are linked into the system that Turbine’s community managers use to oversee the game.

Individuality & Status Tools
Market Drivers: Individuality, Status
Players in MMP Games want to become popular in the online community. They do this by expressing their personality. Much the same way that people buy cars in part as an expression of self, an MMP gameplayer want to create an online game character with a physical appearance, and with a style of dress, that reflects his or her personality. Turbine has a sophisticated character appearance editor, which allows trillions of possible appearances. In competitor’s games, players often look like other players – something akin to showing up at a party wearing the same dress as someone else. In Asheron’s Call, you never meet your twin.

Another element that drives popularity is status. Like a community club, an MMPORG is not just a chat room, you get something to do as well – playing the game. Each player tries to gain practice with the game, becoming more and more skilled. This translates into bragging rights and respect from other players. For this reason, it’s important that players have a way of knowing their status, and showing off that status to other players. They must always have a feeling that there’s room for additional improvement if they keep playing the game. Turbine has integrated these concepts deeply with the gameplay and the software that supports it.

**Content Staff**

Market Drivers: Content, Synergy

Turbine’s expertise in artwork, game design, and community management creates a compelling gameplay experience, and a strong intellectual property. Asheron’s Call has gotten rave reviews for its stunning artwork and state-of-the-art game design. The content of Asheron’s Call harnesses incentives to motivate players, and integrates community and interactivity into the heart of gameplay. At Turbine, programmers work closely with the creative staff to build synergy, so that the final software is targeted towards the creative goals the game designers and artists have in mind.

**Turbine’s Strategy**

The road to success in the market for MMP Games for Gamers is for Turbine to continue to hit the market drivers. We will build on our current strengths, and grow new capabilities as well. Having established Turbine as the leader in this market, most of our strength will go towards breaking into a separate but related market, MMP Games for the Mainstream, which is described in a separate section. Adding this new market is the best way to grow Turbine’s valuation, by stealing market share while the well-funded mainstream game developers have not yet developed a competency in MMP Games.

However, as King of the Hill currently in MMP Games for Gamers, we want to keep the pressure on and stay far ahead of the competition. We want to make several games in the style of Asheron’s Call.

**Harness Existing Software with Horizontal Growth**

Turbine has built an incredible software platform for MMPORGs: stable, efficient, scalable, flashy, and with numerous content tools for rapid content development. Developing this platform was expensive and time-consuming, but now Turbine will enjoy the fruits of its labor. Turbine can build several additional games very cheaply, because they will require only minor technology improvements. This is a cycle typical of computer game developers. Entirely new, breakthrough software engines come only once every 3-5 years. Games produced in the middle of the cycle are much cheaper.

Turbine is in this happy position currently, especially now that Asheron’s Call has proven Turbine’s ability to produce a hit game. We are in negotiations with several publishers for new MMPORGs. This will include an expansion pack and a sequel to Asheron’s Call. This may also include licensing an intellectual property, such as the Star Trek property from Activision, with whom we are in negotiations.

**Earn a Greater Share of the Pie with Vertical Growth**

Because the vertical channel for MMPORGs contains many tasks, Turbine receives less than half the revenues from Asheron’s Call, and has its brand name submerged in favor of Microsoft’s. This is typical for computer games because the publisher adds so much money, both as a cash advance for development (which is later recouped), and in promotion.
Turbine cannot afford to take on these very costly tasks. However, there are several less costly tasks, especially technology-savvy or Internet-savvy tasks, which Turbine could perform in addition to the software and content for the game. Turbine would target publishers who have deep pockets, but who lack technology, or who lack Internet savvy. This would enable Turbine to earn a higher royalty and have a more prominent brand. In order from highest to lowest opportunity, Turbine could perform the following tasks:

- **Web Site.** Although the Microsoft Gaming Zone, with its dozens of games, provides a customer base to Asheron’s Call, it has also introduced some problems. Advertising money is necessarily split between Asheron’s Call and other games. The Zone is a large, complex web site – customers have often been frustrated by the complexity of the sign-up process and the Internet delays (caused by The Zone, not by Asheron’s Call) that come as a normal part of managing such a huge games service. There is an opportunity for Turbine to run a web site dedicated to just a single MMPORG game. Turbine would have greater brand visibility. By owning the customer relationship directly, Turbine would have many new avenues of revenue, by harvesting user data and performing web marketing.

- **Server Management.** Although Turbine may not be able to afford to purchase servers for a server farm, Turbine certainly has the expertise to run a server farm. The most likely outcome would be that Turbine would outsource the direct, physical 24-hour-a-day maintenance, while Turbine would have closer control over server efficiency. This would enable Turbine to sign an MMPORG deal with any mainstream computer games publisher, most of whom lack the ability to run a server farm.

- **Community Management.** Turbine already manages the community for Asheron’s Call, an expensive task but vital to keep customers returning month after month, paying monthly fees that become recurring revenue. Turbine’s future MMPORG deals should emphasize the costs and benefits of community management, arguing for a greater royalty for Turbine for this work.

- **Ongoing Content.** Turbine already creates ongoing content for Asheron’s Call. With its vision for a “big picture” storyline in MMPORGs, Turbine has a unique opportunity to push ongoing content, both to retain existing customers, but also as a key selling point to attract new customers. Turbine’s future MMPORG deals should bring a greater royalty for the enormously valuable contribution of ongoing content. Recently, for Asheron’s Call, Turbine successfully negotiated higher payments from Microsoft on the basis of the valuable contribution Turbine was making in this category.

- **Up-Front Cash.** With Turbine’s plan to grow quickly into a different market, MMP Games for the Mainstream, Turbine will not have the cash to fund development of a new MMP Game for Gamers. However, if Turbine can fund part or all of its development, Turbine will have greater leverage to negotiate a higher royalty, and greater brand prominence.

**Continue to Lead the Market in Community Appeal**

Most Internet games are limited to a dozen players, who can only interact in limited ways. Drivers in a racing car game, for example, can only drive past or ram one another. The largest market driver underlying MMP Games is community. Turbine currently has the best vision and the best technology for community, and must maintain this lead in the future. For example:

- **First impressions.** The community benefits must be obvious to new customers in the first hour of gameplay. That initial experience must be even more compelling, and the game must be easy to learn.

- **Economy.** There should be a fuller economy system, so that money, ideas, and items can be traded with low overhead.

- **Coordination.** Players can form small groups in Asheron’s Call for adventuring. They should be able to form large group affiliations as well. There should be facilities for sending email, spreading rumors, and posting messages on bulletin boards.

- **Matchmaking.** Players who want to form a new team should have ways to meet prospective partners and schedule a time to go gaming. All of this should be better hooked into the “big picture” storyline that underlies the game world.

- **Status.** Players want even greater ways to make a personal statement, show off their status to others, and find opportunities for continuous improvement everywhere. A rankings system would encourage players to seek out strangers and compete for various awards: fastest rescue of a princess, most money collected, best fighter, and so forth. Players should also be able to own buildings.

As the community appeal grows, an MMPORG appeals to gamers who are not quite as serious as regular computer gamers. This increases the size of the addressable market for Turbine’s MMPORGs.
**Attack Competitors Directly**

Because MMPORGs are a cumulative process where players gain more and more status as they play, customers are reluctant to leave one MMPORG for another. There is too much of a time investment to switch, even to a game with better features. However, Turbine may be able to develop a limited *EverQuest* client that would download a customer’s *EverQuest* statistics in a secure manner. Those statistics could then be converted to *Asheron’s Call*, allowing players to switch without starting over again from scratch. If this technology is possible, it would be a great competitive advantage.

**Player-Created Content**

Players love to create their own content in an MMPORG. It’s fun to create, and the resulting work of art brings status and prestige to the creator. Experienced players who are tired of beating up monsters will enjoy making content, keeping them playing the game longer. New players will enjoy experiencing the content, making the game more compelling to younger players, also.

Because Turbine’s content-development tools are very complex, and very secret, customers will never be able to create the rich, compelling monsters, objects, and dungeons that Turbine’s staff creates for the gameworld of *Asheron’s Call*. However, players might be able to use Turbine’s Dungeon Maker, which is like assembling a grid of dominoes, to create their own simple buildings and dungeons. With a small amount of technology, players might be able to create their own quests, clue paths, and scavenger hunts. In the same way that catnip attracts cats, players could leave food that attracts monsters to a site, in effect creating their own challenge to monster-fighters.

All of these techniques should be hooked into the economy, the “big picture” storyline, and the cumulative status that players seek to build over time.

**Spin-Off Products**

More revenue: t-shirts, books, other spin-offs. T-shirt with your screenshot on it. Customized figures. UO II has gotten McFarlane Toys to make action figures for them. Get your character as a customized action figure. Standalone games, board game.

**Internet Technology Improvements**

Having just created a cutting-edge software engine for *Asheron’s Call*, Turbine can now build several new games without an expensive revolution in technology. However, Turbine should plan for the next revolution in two or three years, including, better content tools, more efficient server usage, even greater scalability, and a wide range of technology improvements in the categories described above.
Turbine’s New Market: Massive Multiplay for the Mainstream

Market

Description

Massively Multiplayer (MMP) games for the mainstream must have the broadest appeal. Only serious computer gamers like the fast-action of shooter games Quake and Doom. MMP Games for the Mainstream instead target leisure games such as chess, checkers, and blackjack. In a report on online leisure games, Forrester Research reports:

- “19% of US online households play games online at least once a month.”
- “The target audience is potentially huge – more than 100 million people play card and board games.”
- “Online game players are not just teenage boys – 48% are women, and 63% are between the ages of 25 and 44.”

To play a Mainstream MMP Game, a customer logs onto the Internet through a modem and goes to a gaming website. This website has several, possibly dozens, of simple games played through the web browser. Interactivity is simpler in Mainstream MMP Games: there are no 3D graphics, no gameworld, and players do not create gameworld characters. However, through text-based chat and simple board games, large communities can still interact. The largest mainstream MMP game sites have 2-5 million registered users.

The point of the game is merely to win the game of checkers. However, some customers compete with each other in tournaments, where the point of the game is to defeat as many opponents as possible. Mainstream MMP game sites have rankings in various categories, allowing customers to gain status and prestige. Every gaming session, customers may meet people they’ve met before. Customers meet people and make friends.

Although there are many sites about entertainment, such as movie review sites, these sites are not game sites. Also, there are many forms of gambling over the Internet, which are also not included in the MMP Games for the Mainstream market.

Appeal

Because MMP Games for the Mainstream is a submarket of Internet Games and Electronic Entertainment, they share most of the same appeal factors. Also, many of the MMP Games for Gamers appeal factors apply. Appeal factors include:

- **Community.** Like golf clubs or summer camps, MMP games offer a social meeting place. Unlike MMPORGs, where players control 3D characters in the game, Mainstream MMP games are little more than text-based chat environments added to a suite of simple games. Regardless, a community still forms.

- **Mainstream Appeal.** Leisure games over the Internet appeal to people outside the traditional 18-35 year age range of regular computer gamers. According to The Industry Standard, AOL boasts that more than half of the players in its games area are over 35 years old and more than three-fourths are over 18.

- **Low Entry Barrier for Customers.** Mainstream customers refuse to endure a long setup process, or to spend time learning the rules of a complex game. They want to drop into gameplay immediately. No registration should be required. Since everyone knows the rules to common board games, Mainstream MMP game sites often feature common board games such as backgammon and blackjack.

- **Free Play.** Mainstream customers play leisure games as a recreation, not a way of life. They are much more price sensitive than regular computer gamers. For the Internet world, this means that Mainstream MMP Games must be free. According to the Industry Standard, “Because it’s an audience playing familiar games, which are available at numerous sites, the likelihood of those players ever ponying up a subscription fee is low.” Forrester Research, who surveyed young gamers, found that “68% of gamers would not pay for online games. Even among gamers who spend 10 or more hours per week playing anything from Nintendo to cards, 53% pass on the whole pay-to-play option.”

- **Players Gain Status.** Every player will have a degree of success in one of the many leisure games. This success translates into status, as players acknowledge each other’s accomplishments. The game must constantly provide feedback that the player is improving and achieving more and more – for example, through tournaments and...
rankings. If there is only one winner, then only one player gets status. So mainstream MMP games must provide hundreds of ways to be ranked, in various categories. Everyone who cares can get on a top ten list for something.

- **Gaming in Groups.** Typically, Mainstream MMP Games are individual competitions, not collaborate efforts. Although mainstream MMP games can have millions of active customers, each of whom can interact through chat and tournament rankings, each simple game allows only a dozen or fewer players to compete at one time. In this respect they differ from MMPORGs.

- **Internet Technology: Servers.** Because Mainstream MMP Games are free to play, the servers must be very efficient for the business to be profitable. Servers must be stable and give a smooth experience, scaling up to potentially millions of gamers.

**Other drivers and trends**

- **Portal Sites and Others Use “Sticky” Games to Keep the Customer’s Attention.** According to Forrester Research, the average player at the Mainstream MMP game site Gamesville.com spends more than 4 hours per visit. Online games are very “sticky”, an Internet buzzword which means that sites with games keep customers online, within the web site, longer. Thus, the major portal sites have incorporated games. Now other web sites, especially web retail sites, have begun to do the same.

- **Small Download Size & No Retail Package.** Another effect of the low barrier requirement is that mainstream customers will not go to the trouble of purchasing a retail package. They want to download the game over the Internet immediately.

- **Web Integration.** For the game to be free, a mainstream MMP game site must make money through web advertisements and other web marketing routes. This requires mainstream MMP games to be integrated with a web browser.

- **Time investment.** Because making friends and building a reputation takes time, players who spend more time playing the game enjoy it more. However, it is not necessary to play games for a long time to enjoy the experience.

**Revenue Model**

Mainstream gamers refuse to pay a high premium for entertainment, so games for the mainstream bring in less revenue per customer than other kinds of computer games. However, because mainstream games are built inexpensively, and scaled to millions of customers, they are very profitable.

Mainstream MMP Games are not sold retail. Instead, the customer downloads them for free, and plays them for free. The hosting web site makes money in a variety of ways:

- **Banner advertisements.** Because gameplayers are engrossed in a game, a banner advertisement to promote a brand is preferred over click-through advertisements.

- **Product Placement and Affiliation.** Beyond advertisements, associating an advertiser’s product directly with the game both captures the customer’s attention and links the customer’s attitude towards the product to the fun gameplay.

- **User data.** By holding tournaments with cash prizes, mainstream MMP game sites entice players to register, providing data. This allows the mainstream MMP game site to target each advertisement, charging more money for each ad.

- **Portal affiliation.** Game sites are among the stickiest of web sites. Surfers stay for a long time and generate many page hits. This makes games valuable to portals. Portals sites often pay a games developer to keep customers within the portal’s site.

- **Affiliate marketing.** The mainstream MMP game site recommends products to its customers, taking a cut.

- **Market research.** Mainstream MMP game sites, like Gamesville, can study what kinds of users respond to what kinds of advertisements, and then follow up to the customer’s reaction.

Gamesville’s CEO, in Business Week, commented on advertising for mainstream MMP games: “In many ways you can think of Gamesville.com as an Interactive television company. One of our major products is ‘E-mercials.’ Our games start every 10 minutes, and last seven minutes maximum. So, our of every 10 minutes, there are three minutes to kill, and we ask you to look at ads, just like television.”
Turbine’s Competitive Advantages

Although Turbine has no product yet in the mainstream market, the success of *Asheron’s Call*, an MMP game for regular computer gamers, positions Turbine well to appeal to the mainstream. Turbine’s plan to harness these competitive advantages is laid out in the next section.

A Vision for Community

Market Drivers: Ease of Use, Player-Player Interactivity, Player-World Interactivity, Community

Turbine’s employees are Internet visionaries who lead the revolution in new models of interaction and business over the Web. For *Asheron’s Call*, Turbine created a fresh approach to MMPORG gaming that solved many game balance and interactivity problems. Currently, mainstream MMP games have only a weak community. Turbine’s experience with a strong community becomes an important competitive edge.

Internet Technology: Servers

Market Drivers: Internet Technology: Servers, Free Play

Most of Turbine’s competitive advantages in MMPORG server technology applies to mainstream games. Mainstream servers must be secure, stable, and respond well to bandwidth and latency limitations inherent in the Internet. Leisure games found in the mainstream are simpler, reducing the computer power needed per customer. However, they must be hugely scalable, to 100,000 simultaneous players or more. Because mainstream customers demand free gameplay, the servers must be very inexpensive to operate.

Computer Graphics

Market Drivers: Visual appeal

Although mainstream customers are not as demanding as regular computer gameplayers, computer graphics remains a key decision factor in the choice for entertainment. Turbine has a proven competency in delivering 3D graphics across a network of limited bandwidth. This is an important advantage because the typical mainstream MMP game has only rudimentary visual appeal.

Persistent-World Technology

Market Drivers: Player-World Interactivity, Social, Community

Although mainstream MMP games have rankings and tournaments, allowing customers to gain status over time, they lack the full persistent worlds that characterize MMP games for computer gamers. Persistent worlds can be designed so that players without interest can ignore the gameworld. Players who do care will be able to walk through the world and interact with it. Turbine’s persistent world technology is an enormous asset to the appeal of mainstream MMP games. Customers could design their own 3D character, roam the gameworld, and take part in new forms of leisure game not available anywhere else.

Content Tools

Market Drivers: Content, Player-World Interactivity

To run tournaments and create hundreds of gaming experiences, Turbine’s experience with content tools will enable rapid development of areas of the mainstream MMP gameworld.

Individuality & Status Tools

Market Drivers: Player-Player Interactivity, Social, Players Gain Status

Current mainstream MMP games have no 3D character through which a customer can express his or her personality. Although customers can win prizes, or find their name on a ranking for best gameplay, mainstream MMP games
lack the rich rags-to-riches progression of MMPORGs. Turbine’s experience with status will add to the game experience. Customers must be able to achieve status, communicate that status to others, and always feel there is room for greater achievement.

Content Staff

Market Drivers: Content, Mainstream Appeal, Low Entry Barrier for Customers

Turbine’s artists and game designers can craft the core game elements of an MMP game to hit market drivers. By reacting flexibly to customer feedback, they target Turbine’s content towards customer appeal.

Turbine’s Strategy

Turbine’s strategy is to define and hit the market drivers, adapting the company’s core competencies. There is enormous potential for Turbine in mainstream MMP games, because of Turbine’s success in MMPORGs. Instead of creating a series of simple board games, for which Turbine might not find a competitive edge, Turbine can create a new style of mainstream leisure game with persistent world technology. A persistent world will better harness community and, through 3D graphics, present better visual appeal and opportunities for individuality. Turbine can then exploit this content and technology advantage through web market, by hosting a web site and self-promoting the Turbine brand.

Low-Barrier 3D Games for the Mainstream

Mainstream MMP games typically feature leisure games based on well-known card or board games. Although there is competition for the best visual appeal and content, one game of bingo is much like another. Turbine has an opportunity to create a sharp competitive difference, by making games that harness its interactive, 3D world technology. These games must be kept low-barrier for mainstream customers, who want to start having fun immediately. Fortunately, mainstream customers are familiar with a variety of simple games that children play outdoors, many of which are readily created with Turbine’s competencies:

- **Capture the Flag.** Players form teams to protect a team flag placed centrally. Advance groups try to sneak up and steal the opposing team’s flag.
- **Tag, You’re “It”.** Within an engaging landscape, even a simple game like Tag appeals to a mainstream customer.
- **Scavenger Hunt.** Individually, or in teams, players search the gameworld to collect a list of objects. Another variant is an Easter Egg Hunt.
- **Hedge Maze.** Players can walk through a large maze with 8-foot-walls.
- **Obstacle Course.** Players guide their 3D character through a littered racetrack. Obstacle courses may be collaborative, for example with a three-legged race.
- **Clue Path.** The player is given a clue, which when solved leads to a location in the game world. At this location is another clue, which leads to a second location, where there is another clue. And so forth. Players compete to solve the clues quickly, and enjoy exploring the game world as a side effect.
- **Simple Exploration.** Players wander around the world, just enjoying the pretty graphics and searching for interesting, hidden locations. The appeal of simple exploration games is well-known. The most successful game of all time, Myst, was a low-barrier exploration game with a few puzzles.

Each of these simple game concepts can be expanded to allow advanced players to go further with the game concept. For example, the game may feature a variety of obstacles that players can place in front of each other. These obstacles may be physical, or they may be intrusive elements (similar to casting magic spells) that slow down or inhibit an opponent’s actions and make the game more challenging for him or her.

Turbine’s many mainstream MMP game proposals, in development, are described in Appendix C.

Turbine’s Role in the Vertical Channel

Turbine will assume many roles in the vertical channel:

- **Technology & Content.** Turbine will of course create the technology and the content behind the game itself.
- **Ongoing Support.** As with Asheron’s Call, Turbine will provide ongoing content and community management.
• **Server Management.** However, Turbine will also take ownership for running the servers – most likely outsourcing the most basic 24-7 maintenance tasks. This will allow Turbine to more tightly manage server efficiency, and to partner with companies unfamiliar with server technology.

• **Web Site.** To build its brand and harness its content fully, Turbine will expand vertically into hosting its own web site, although Turbine may submerge its brand in a private label deal with a portal. Turbine will develop a capability in promotion, web design, and web content.

• **Web Marketing.** Turbine will develop a capability in web marketing, building Internet channels of revenue directly into gameplay.

• **Up-Front Cash.** Turbine will form partnerships to partially fund development, and will partially self-fund development. While Turbine cannot afford to fully fund its own development, this will give Turbine greater leverage when negotiating partner deals.

**Own the Customer Relationship**

While Turbine may delegate portions of these roles to partners, the company will try to retain responsibility for hosting the web site, which is the key element to building a brand in this market. This will allow Turbine to directly own the customer relationship, effectively self-publishing its games online.

Owning the customer relationship involves:

• Using statistical tools to refine customer retention
• Collecting user data to target advertisements
• Cross-promotion with other web sites
• Tailoring the experience to the customer
• Highly automating the experience to reduce customer support needs

**Partner with Portals for Rapid Growth**

Portals have recently discovered that game sites are “sticky”, keeping customers within the site for a long time. Thus, portals are eager to sign deals with mainstream MMP game developers. Turbine would seek an alliance with a portal who would provide assistance with up-front cash, developing a customer base, and promotion. In return, Turbine would provide the technology, content, and ongoing support to a portal with no expertise in entertainment. Turbine would rely on its partner to help Turbine build a capability in web marketing.

In addition to revenues from web advertisements, Turbine may convince a portal to pay whenever Turbine converts an anonymous portal customer to a registered portal customer, or whenever Turbine attracts a brand new customer to the portal.

**Transform Competitors into Partners**

Because Turbine’s new concepts for mainstream MMP games are very unlike the board and card games typically found in the market, there is an opportunity for Turbine to partner alongside, instead of in competition to, other game developers. For example, although major portal Lycos purchased Gamesville in 1999 to be their games service, Lycos may be interested in also partnering with Turbine’s differently-styled game service. Alternatively, Turbine could seek to partner directly with another games developer, adding a middleman to the value chain, but gaining a partner in selling services to portals, and to gameplaying customers.

**Harness Community Appeal Fully**

Current mainstream MMP games take limited advantage of community. Although players can chat, and compare rankings, community factors are not deeply integrated into gameplay. Turbine has the expertise to maximize the community appeal of mainstream MMP games:

• **Status.** Customers must get feedback that they’ve improved, and have a feeling there’s somewhere to go. Status & Individuality. even creating a character is too complex, create pre-rolled characters to choose from, based on stereotypes from movies: action hero, wacky scientist, etc. Having an online character should be OPTIONAL. Tournaments and rankings

• **Grouping.** Players need to be able to form groups, large and small, and identify themselves with each other.

• **Gameplay Elements.** Success in the game itself must be tied deeply to the community.
• Messaging. Players need to be able to communicate in many ways.
• Computer adversaries / generated content.

A True Persistent World for the Mainstream
Although technically speaking, any game where your spot in the rankings persists from day to day is a persistent world, a fully persistent world like Asheron’s Call does not exist in mainstream MMP gaming. Most mainstream players do not value the roleplaying experience of a “big picture” storyline so important to MMPORGs. However, mainstream players do value making friends, owning objects, and the metaphor that the virtual world represents a real gaming place. By integrating persistent world components into gameplay, Turbine will both increase appeal and better create a competitive advantage.

Collaborative Gaming
Current mainstream MMP games do not fully utilize collaborative gaming. Typically, each individual is out for himself in a one-on-one or many-on-many competition. Turbine can harness its experience in collaborative gaming from Asheron’s Call to make a difference also in mainstream games. For example, players on a scavenger hunt can do this in teams. Players walking through a maze may be able to assist one another in teams. Building and commanding teams gives more experienced players something to do, and helps to introduce new players into the gameworld.

Player-Created Content
Players love to create content in MMPORGs. Although most mainstream gamers will not be interested in creating content, the few who are interested can fuel enormous appeal. Turbine will adapt player-created content ideas to mainstream MMP games.

Management
Turbine will need to partner with a publisher who will be supportive while Turbine builds a competency in self-promotion and web marketing. Turbine will need experienced management for:
• Business development, to sell Turbine’s game service to portals
• Sales staff, to promote Turbine’s service to customers
• Market research staff
• Web marketers, specialists in e-business
• Customer support & community managers

Distribution
Although mainstream customers typically do not buy retail games, a retail package is an efficient method to advertise the game. As well as offering games for free download, Turbine may create a CD or DVD with its games. This CD could be bundled with a magazine or a computer product, or it could be direct-mailed. Rather than funding the entire expense of the CD, Turbine will share space on the CD with partners who will help pay the costs as well.

Develop New Internet Technology
Turbine has already proven its strength in Internet technology, through handling bandwidth and latency, and through its secure, stable, scalable servers. Mainstream MMP games will require adaptation of this technology, as well as new technology:
• Web integration. To take advantage of web marketing opportunities, Turbine’s games must either run inside a web browser, or alongside a web browser in a separate window.
• Low server costs. A game like Asheron’s Call is too complex to run inexpensively. Turbine will develop technology for a mainstream game: simpler and with greatly reduced costs appropriate for a game whose revenue will come primarily from advertisements and high volume.
• Small download size. Because mainstream customers want to start playing the game immediately, Turbine will develop a core client program that can be downloaded and played right away. A game like Asheron’s Call is far too complex and contains too much artwork to be downloaded quickly. However, mainstream games are simpler and can be supported with less software.
Although Turbine can make inexpensive, low-bandwidth games merely by producing extremely simpler games, those simple games will be less competitive against common card games and board games on the Internet. The real challenge is to make inexpensive, low-bandwidth games that retain much of the glamour and flashy appeal of Asheron's Call.
Risks

Growing a business always involves risks. At Turbine, we acknowledge the risks inherent in our business, and work both to minimize risks, and to create contingency plans for adversity.

Web Marketing Risk

To produce MMP entertainment for the mainstream, Turbine will create its own web site, partially self-funding and partially allying with an established portal. Although Turbine has a great of experience managing customers through Asheron’s Call, Turbine has not managed customers through a web site. Turbine’s technology will be a great driver of demand for a self-hosted web site. Turbine will need to go the extra step, building a competency in web marketing and web community.

Management Risk & Team Risk

To springboard from the success of Asheron's Call, Turbine will pursue a three-market strategy: MMP for Gamers, MMP for the Mainstream, and MMP tool licensing. All three are excellent opportunities, but they will need to be well-managed. Turbine will need to hire additional managers experienced in Internet development, with a vision for Internet entertainment. To grow quickly, Turbine will also need to hire quickly, and create a flexible management structure. Turbine will take this challenge seriously, spending money on headhunters and advertisements, and hiring a full-time HR person solely for recruiting, with no internal HR responsibilities. If necessary, Turbine may employ freelancers for game content and testing. We will retain current employees through our entrepreneurial culture, competitive salaries, and stock benefits.

Hit-based Business

Computer games are a hit-based business, because top games sell many more units than average games. It is difficult to know in advance whether a game will be a hit. Much of a game’s success is based on its content, which, similarly, is not measurable. At Turbine, we attack this problem head-on:

- **We are a technology company:** Entry Barriers. By choosing MMP games, the niche with the highest technology, we have crossed a barrier to entry. Demand is high for MMP games and growing explosively. There’s plenty of market share for the few MMP game companies.
- **We are a technology company:** This Makes a Hit. Although “content is king”, technology - which is much more measurable than content, and thus less risky - plays a critical role in making a hit. Smooth gameplay over the Internet relies on networking technology. A dynamic world relies on a system for game objects and content-creation tools.
- **Previous hits:** Companies with hit games tend to produce more hit games. Turbine’s first game, Asheron’s Call, was a great success. Turbine’s experienced employees have backgrounds in the games industry producing hit games.
- **Appeal testing:** We believe in testing game appeal, early and often. With an “open beta” testing period, and by shipping the game, we get real customers who give great feedback. To secure a publishing deal, Turbine will have to pass the due diligence of a major publisher. This will also validate the game’s appeal.

Inexpensive Mainstream Game

Turbine plans to develop entertainment software for the mainstream. The mainstream customer will not pay the high monthly fees that regular computer gamers pay to play Asheron’s Call. Mainstream customers expect free gameplay, allowing Turbine to generate revenue through web advertisements. Although Turbine will make less money per customer, mainstream games are typically simple leisure games that cost little to produce and cost little to maintain.

Of course, Turbine is upping the ante by, for the first time, bringing a persistent MMP gameworld to mainstream entertainment. This complex technology has not yet been modified to run in a simplified manner. Although Turbine is confident it can be done, there is the risk that Turbine will not be able to run such a complex game cheap enough for web advertisements to be profitable.
Should web advertisements be insufficient profit, Turbine will change the gameplay, simplifying the game further until this is possible. Turbine may also target a smaller market than mainstream leisure gamers. For example, by focusing on car lovers or pet lovers, Turbine may find a special interest group willing to pay a small monthly fee, yet different from the customers who regularly play games.

Schedule Risk

All computer software projects, at any company, are in danger of schedule risk. It is difficult to estimate in advance the person-months required to complete a project. To address this risk we use:

- Experienced management: Our managers have the experience to set realistic projections.
- A Prioritized feature list: We rigorously match features to customer demand, and place high value on implementing work by the customers’ priorities, not our developers’ priorities.

Our contingency plan for schedule risk is a balance between cutting features and delaying ship. Our strong bias is to cut features first. We may then add features after ship as part of our updating and maintenance of the game. We may need to raise additional investment to fund a schedule slip.

Competitive Risk

Although Turbine has released Asheron’s Call, a best-selling MMPORG game, there is no guarantee that competitors at unknown or well-known companies will not release a similar or better product. We address competitive risk through market research, identifying competitors by networking in the game community. Our strategic vision is calculated to leapfrog, not improve upon, our competitors. In the quickly growing Internet games market, a new competitor may not make a large impact on sales. Our contingency plan involves adapting the game to increase differentiation, or targeting a slightly different niche.

Technology Leakage

Turbine’s strategy for licensing toolkits may allow licensees a glimpse into the workings of Turbine’s proprietary technology. To reduce this risk, Turbine will black box its toolkit thoroughly before licensing, even if that incurs a minor cost in functionality. Turbine’s own games will, by the nature of technology development, be slightly more fully-featured and slightly more efficient than its licensees’ games.
Management

Internal Management

Edward T. Barron, President and Acting CEO, joined Turbine in September 1999 as its president and COO. Mr. Barron brings over 30 years of leadership skills and business acumen to the organization. Before joining Turbine, Mr. Barron served as chief operating officer at Inspex, a semiconductor wafer test equipment manufacturer, where he returned the company to profitability in less than 12 months, produced overall company growth of 50% in one year, and achieved ISO 9000 certification. Mr. Barron was also with Digital Equipment Corporation for twelve years where he created and served as general manager of their disk and subsystems business. He was responsible for $2 billion in revenue comprised of all manufactured and purchased disk drives, controllers, and storage subsystems. Mr. Barron also worked at the General Electric Company in the Electronic Systems Division in various engineering and management positions. Mr. Barron holds an M.S. in Computer and Information Science from the University of Massachusetts, Amherst and a B.S. in electrical engineering from the University of Michigan.

Mark L. Pover, CPA, Chief Financial Officer, joined Turbine in October 1999. Mr. Pover brings over 13 years of management experience to the organization. Before joining Turbine, Mr. Pover served as executive vice president and chief financial officer of EON Reality, Inc., where he was responsible for the leveraged management purchase of the publicly traded global Swedish Company Prosolvia by EON Reality. At EON Reality, Mr. Pover headed up Operations, Accounting, Finance, Taxation, and Human Resources for the entire organization throughout North America, Europe, and Asia. Prior to EON, Mr. Pover joined Deluxe Video Services, Inc. where he served in a number of roles including general manager. Prior to Deluxe, Mr. Pover was a partner at Porvin, Toebes & Burnstein, P.C. and a senior auditor at Collis, Kompf & Hoag, both certified public accounting firms. Mr. Pover holds an M.S.M. from Walsh College and a B.S.A. in Professional Accounting from the University of Michigan. Mr. Pover is also a Certified Public Accountant and member of the AICPA and MACPA.

Timothy W. Brennan, Executive Vice President, Engineering, joined Turbine in January 1996. Mr. Brennan is Turbine’s head of software development and leads development of the Turbine Engine. Mr. Brennan is also primary architect for Turbine’s server and networking technologies. He has been actively researching parallel and distributed systems, including co-authoring and presenting a paper at the 1996 ACM Symposium on Parallel and Distributed Tools. Mr. Brennan studied at Brown University, where he was named a Royce Fellow in recognition of his research work, and was awarded a Microsoft scholarship for excellence in computer science. He has also been a guest-lecturer for graduate and undergraduate courses at Brown University. Mr. Brennan previously worked at Microsoft as part of the Windows/NT group.

Christopher J. Dyl, Vice President, Technology, joined Turbine in April 1995. Mr. Dyl is the primary architect of Turbine’s graphics, physics, animation, client autonomy, and large-scale world-creation technologies and leads the development team implementing those systems. He is currently active in extending the Turbine Engine to support new technologies. Mr. Dyl attended Worcester Polytechnic Institute, where he studied physics, mechanical engineering, electrical engineering, and computer science.

Andrew Reiff, Lead Software Engineer, joined Turbine in October 1996. Over the course of the previous five years, Mr. Reiff played, designed, coded, administered, and created several successful MUDs. This experience gave him insight into the challenges facing online gaming. He designed and implemented Turbine’s core game system infrastructure, including the Asheron’s Call Skill System and Combat System (his current projects include AI, Magic, and the Allegiance Systems). Mr. Reiff has a long history as a role-player, a computer gamer, and a Magic: The Gathering enthusiast. Mr. Reiff received a B.A. in philosophy and in classical and medieval studies from Bates College and an Sc.M. in computer science at Brown University.

Thomas R. Ragaini, Jr., Lead Game Designer, joined Turbine in February 1995. Mr. Ragaini brings to the team an understanding of game play based on his experiences both as an award-winning roleplay gamer and as a gaming enthusiast. He is responsible for coordinating and managing the creative vision of Turbine’s first title, including the complete design and specification of all game systems and user interactions. He leads the entire game-design team. Prior to joining Turbine, Mr. Ragaini worked for Genome Therapeutics, in Waltham, Massachusetts, where he
contributed to research for the Human Genome Project. Mr. Ragani holds a B.S. degree in molecular biology from Worcester Polytechnic Institute.

Charles Bandes, Producer, joined Turbine in July 1998. Mr. Bandes is primarily responsible for leading the development of Resurgence, one of Turbine's new projects, including scheduling, feature definition, and interface with our publishing partner. Previously, he served for four years as a Project Director and Producer for Papyrus Design Group, where his credits included the top-selling NASCAR Racing, IndyCar Racing 2, and Road Rash/PC. Mr. Bandes has a proven record of meeting tight deadlines and delivering high-quality products. His interest in Internet MUDs and years of industry experience make him a good fit for the Turbine team. Mr. Bandes holds a B.F.A. from the Rhode Island School of Design.

Scott Herrington, Producer, joined Turbine in September 1999. Mr. Herrington has worked in product development, licensing, and marketing for developers and publishers, most recently at publisher Shiny Entertainment/Interplay. Mr. Herrington has managed both internal and external domestic and overseas development teams and has lectured on focus testing and its use in the development process. Prior to Shiny Entertainment/Interplay, Mr. Herrington was a founding producer at Playmates Interactive Entertainment and produced all console versions of the Earthworm Jim franchise, which resulted in 13 titles for Genesis, SNES PC, Gameboy, Game Gear, PSX and Saturn. Mr. Herrington is now leading the Asheron's Call team, and working on prospective future titles. Mr. Herrington holds a B.S. from the College of the Atlantic.

Board of Directors

Dr. Andries van Dam, Chairman, is Thomas J. Watson, Jr., University Professor of Technology and Education and Professor of Computer Science at Brown University. He has been on Brown’s faculty since 1965, and was one of the Department’s founders and its first Chairman, from 1979 to 1985. He is also director of the NSF Science and Technology Center for Graphics and Visualization, a research consortium. Professor van Dam’s research has been in the areas of computer graphics, text processing and hypermedia systems, and workstations. He co-authored the widely used reference book Fundamentals of Interactive Computer Graphics, with J.D. Foley, as well as the greatly expanded successor, Computer Graphics: Principles and Practice, with J.D. Foley, S.K. Feiner, and J.F. Hughes. Prof. Van Dam has authored or co-authored several other books on computer science and more than 80 papers. He has been associate editor or on the editorial board of three journals. Among his awards are the Society for Information Display’s Special Recognition Award (1974), the IEEE Centennial Medal (1984), the National Computer Graphics Association’s Academic Award (1990), and the ACM SIGGRAPH Steven A. Coons Award (1991). In 1994, he also became an IEEE Fellow and an ACM Fellow. He received an honorary Ph.D. from Darmstadt Technical University, in Germany (1995), and an honorary Ph.D. from his alma mater, Swarthmore College (1996). In 1996, he was inducted into the National Academy of Engineering. In 1967, Prof. van Dam co-founded SIGGRAPH, and from 1985 through 1987 was Chairman of the Computing Research Association. He is currently on the technical advisory boards of The Fraunhofer Center for Research in Computer Graphics, Integrated Computing Engines (ICE), and Microsoft. He is Chairman of the Board of Numinous Technologies, Inc. Professor van Dam received a B.S. with honors from Swarthmore College and an M.S. and Ph.D. from the University of Pennsylvania.

Timothy W. Brennan, Executive Vice President Engineering (see biography above).

Robert M. Glorioso, Ph.D., Director, is co-founder, President and Chief Executive Officer of Marathon Technologies Corporation, a developer of fault-tolerant and disaster-tolerant solutions for the Windows NT operating system. Dr. Glorioso has more than 30 years experience in the computer technology field, most notably in a successful 17-year tenure as a Vice-President of Digital Equipment Corporation. In that capacity, he was responsible for several businesses, including Transaction Processing, Systems Management SW, Fault-Tolerant Systems, and High-Performance Clusters and Mainframes. While at Digital, his group received two Systems Product of the Year Awards from Datamation readers for the VAX 9000 and VAXft (fault-tolerant) series, and was twice Digital's Nominee for the Malcom Baldrige Award. Dr. Glorioso also sits on the Board of Directors of Ultrathin Communications, Inc., and Proteon/Open Route Networks, Inc. Dr. Glorioso received a B.S. in electrical engineering from Northeastern University, M.S. and Ph.D. degrees from the University of Connecticut, and an Advanced Marketing Management certificate from Harvard Business School.
Jonathan Monsarrat, Director and Founder, is an entrepreneur and technology visionary with 10 years experience in the software engineering industry. Mr. Monsarrat previously served as Turbine's Chairman, CEO, and Chief Technology Officer. He was most recently Director of Bioinformatics at AlphaGene, and was previously principal software engineer at Genome Therapeutics, a biotechnology company. Mr. Monsarrat holds an M.B.A. from the MIT Sloan School of Management, a B.S. in electrical engineering from MIT, where he was active in the MIT Artificial Intelligence Laboratory. He has completed the academic requirements for a Ph.D. from Brown University, where he received the President's Award for Teaching. Mr. Monsarrat has 15 years experience in large-scale live roleplaying games. As a consultant to Turbine, he leads the company's vision for the future of Internet gaming and leads the development of the company's business plan. Founding Turbine in 1994 for the forthcoming Internet revolution, he was the primary architect of the overall system for Turbine's technology.

John H. Pryor, Director, is a founding member of Telluride Equity Partners LLC, which has funded a number of start-ups including an early stage online publisher, SpotMedia, which was later acquired by Ziff-Davis. In addition, Mr. Pryor has six years of sales and marketing experience with Anixter Bros. Inc., a Chicago-based Fortune 500 company, where he was responsible for developing their LAN/Network Services business. In addition to integrating new product lines in the U.S., he also lived in London for two years and successfully integrated LAN and CATV products into five offices in the U.K. and Europe. After leaving Anixter, Mr. Pryor started Pryor Business Consulting Inc., a small-business consulting firm in the Seattle area, where he wrote business plans, secured financing, and structured deals for start-up companies. In addition, he was the President of Jefferson County's Economic Development Council for two years. He has been seated on numerous boards and has been active in several real estate development projects. Mr. Pryor graduated with a B.A. from the University of Colorado.

Daniel R. Scherlis, Director, joined Turbine in May 1996. Mr. Scherlis was most recently CEO of Turbine. In February 2000, Mr. Scherlis relinquished operating responsibilities of Turbine and will, as a Director and consultant to Turbine, assist with Turbine's new business concepts and the development of strategic partnerships. This change will allow Mr. Scherlis to leverage his experience in maximizing the opportunities now provided to the company in the game and Internet industry. Prior to joining Turbine, Mr. Scherlis was Director of New Product Development at AT&T New Media Services, an Internet-content publisher. Mr. Scherlis joined that organization in 1994, when it was Ziff-Davis' Interchange Online Network. Mr. Scherlis was then responsible for designing and implementing that online service's Internet capabilities and content. As Executive Vice-President of Papyrus Design Group, a Massachusetts computer game developer, Mr. Scherlis led Papyrus' marketing and product development operations from 1992 to 1994, establishing a software publishing capability that included support, manufacturing, and distribution. He produced PC and Sega titles, including the hit IndyCar Racing. Papyrus was sold to Sierra On-Line, now part of Cendant Interactive. Mr. Scherlis holds an M.B.A. from Harvard Business School and A.B. and A.M. degrees in linguistics from Harvard University.

John Wilson, Director, joined Turbine as a Director in November 1999. Mr. Wilson has over 16 years of experience in the gaming and publishing industry, and includes more than 11 years on the editorial staff at Computer Gaming World magazine, the world's oldest and most respected PC-specific game magazine, where he served as editor, editor-in-chief and editorial director. Mr. Wilson is also the author or co-author of numerous best-selling computer game books. His SimCity Planning Commission Handbook (Osborne-McGraw Hill, 1990) was hugely popular with game players, and was also used as a resource in college level urban planning courses. His Sid Meier's Civilization or Rome on 640K a Day (Prima Publishing, 1992 with Alan Emrich) and Official Civilization: Call to Power Strategy Guide (Brady Books, 1999 with Terry Coleman) were also top sellers that artfully entwined game tips and historical references. In 1990, Wilson received the Best Software Reviewer award from the Software Publishers Association, and is the only game reviewer to have received that honor. He served on the Advisory Board for the Recreational Software Advisory Committee in establishing the RSAC and RSAC ratings systems.

Kenneth L. Wolfe, Director, is Managing Director and Co-Chairman of StoneGate Partners, LLC, a New England-based private equity investment bank. In that capacity, he has responsibility for securing both financing commitments and investment proposals. Until June 1993, Mr. Wolfe was a Managing Director and head of the Global Private Placement Group at Morgan Stanley & Company, in New York. He was responsible for the origination, structure, and placement of all private debt transactions for Morgan Stanley clients. Previously, he directed the Morgan Stanley Debt Capital Markets Group in Tokyo, which specialized in financial engineering, interest-rate swaps, equity-indexed notes, and the securitization of assets. Mr. Wolfe is a graduate of the University of Chicago and the University of Chicago Graduate School of Business.
Appendix A: Example of Gameplay

A customer, Mike, logs in and finds his online character, known as an avatar, standing in the middle of the fantasy world town. This is the same place that Mike’s avatar, Arthur Pendragon, was standing when Mike logged off yesterday. Using the keyboard, Mike walks the Arthur character to the town’s blacksmith shop and purchases a new sword with all of Arthur’s play-money.

Walking around the town, Mike sees many other players in the 3D environment. He spots a recent acquaintance – Jane, walking her character Glenda the Witch through the town. Jane admires Mike’s new sword and they chat for a while. They decide to go adventuring together.

Jane and Mike walk their characters out of the town and into an abandoned mine, where monsters lurk. They slay a couple of monsters, find some hidden treasure, and return to the town. Now Mike’s character Arthur player has some play-money again, so Mike is thinking about buying a suit of armor.

But before making his purchase, he runs into a bunch of players from the Thieves’ Guild. Arthur is a member of this organization, so they talk for a while. The Thieves’ Guild has a rivalry with a similar group, the Pickpocket Clan – whenever some player wants to hire a group of thieves, the two groups compete for the job. Apparently, Joe, a member of the Thieves’ Guild has set a trap for the Pickpocket Clan. Joe hired the Pickpocket Clan, sending them on a phony mission to the nearby forest. Joe and some other Thieves’ Guild members will be waiting to ambush them – hopefully to grab some of the Pickpocket Clan’s money and run away. Thus, groups as well as individuals compete for status in the game.