I. Introduction

1. Chipset manufacturers Intel and AMD – Advanced Micro Devices continue their “David and Goliath” like rivalry. Intel is clearly the giant, possessing the lion’s share of the market, 90% as of 04-2004 (Singer), having exclusive alliances with PC Original Equipment Manufacturers [OEMs] such as Dell and Gateway at the time of this article (08-23-03).

AMD despite being the clear underdog, possessing 14% of the market share as of 04-2004 (Singer) has managed to stay competitive with their proverbial slingshot and deadly aim by beating Intel to the punch in technology with the first 1 gigahertz clock speed processor back in 2000 and more recently with the first desktop 64bit processor named the Athlon 64 in September of 2003, a significant two-fold leap over Intel's current line of 32-bit desktop processors. Intel won't have its own version of a desktop 64 bit processor until the fourth quarter (Q4) of 2004.

2. Key terms and definitions (http://whatis.techtarget.com):

   - Processor - A processor is the logic circuitry that responds to and processes the basic instructions that drive a computer.
   
     The term processor has generally replaced the term central processing unit (CPU). The processor in a personal computer or embedded in small devices is often called a microprocessor.

   - Cache - A cache (pronounced CASH) is a place to store something temporarily. Computers include caches at several levels of operation but in the context of this article, the following types of cache will be used:
      - L1 cache memory is on the same chip as the microprocessor and provides the fastest memory access.
      - L2 and L3 cache memory are on a separate chip from the microprocessor but faster to access than regular RAM (Random Access Memory) which is a larger capacity cache that resides on the motherboard.

   - Other key terms will be defined on an as needed basis.

3. Market Share/Market Growth Matrix: In terms of market share and the market growth matrix, Intel and it's product line would be considered a “Cash Cow”. Intel has steadily increased the speed its 32 bit processor line to remain competitive and as mentioned above, has formed exclusive strategic alliances with some of the largest PC OEM's such as Dell and Gateway.

AMD on the other hand has had a less than stable position on the market growth matrix especially prior to 2000 when their product line were largely considered and ”inferior but economic” when compared to Intel. These were periods when AMD may have been considered a “Dog” and have struggled to remain competitive in the chip processor market. (Ch. 2, p 53)

There are other times when on the basis of pricing AMD has managed to stay alive and continue its research and development while maintaining market interest by announcing it's plans to release new
technologies such as the 64 bit processor back in late January 2003 placing it in the “Question Mark”
category. (Ch. 2, p 53)

But when AMD finally put its 64 bit processor in the market last September, it helped carve a significant
niche for AMD, especially in the consumer innovator and the early adopter market. According to the article;

*The chip’s appeal will be aimed mainly at AMD’s traditional constituency, the PC hobbyist. These are the folks
who love to rip their systems apart only to rebuild them better and better each time, constantly running
overclocking experiments to push their processors beyond the specified limitations (Hesseldahl).*

With the continuing competitive edge of having the first 64 bit processor in the market and no competing
64-bit processor from its closest rival Intel until the middle of Q4, AMD should now be considered a “Star”.
(Ch. 2, p 53)

II. Environment

4. Competitive Environment – Intel has 90% of the market share worldwide, compared to AMD which has only
16% according to the following article published in April 2004 (http://www.internetnews.com/bus-
news/article.php/3342931), leaving the remaining 4% to other processor chip manufacturers such as
Motorola and IBM which manufacture processors for various proprietary and Macintosh OS systems.

Despite Intel’s exclusive alliances with the big PC OEM’s such as Dell and Gateway, AMD has managed to
stay competitive by catering to PC enthusiasts who are either looking for the most “bang for the buck” or
who want the “latest and greatest”. Gaming based PC OEM’s such as http://alienware.com have stayed
competitive thanks in part to the PC enthusiast market and to AMD’s alternate product and price offerings.

5. Political Legal – With such a large market share Intel may face possible Anti-Trust Law issues similar to
software giant Microsoft. There is already a case in the US Supreme Court against Intel for its monopolistic
business practices.

If Intel loses the case the company will have to share its technology with AMD giving away Intel’s best edge
by allowing AMD to make completely compatible product lines against Intel own entrenched products. This
will of course set legal precedence that will force larger trust-like companies to practically give away their

6. Economic – In the realm of computer processors, product lines range in the most powerful and the most
expensive to the least powerful and the least expensive with a range of products in between. How much a
consumer or business is willing to spend depends on their particular needs. The fastest, most cutting-edge
technologies will always command the highest prices and will only be sought after by enthusiasts and
businesses with special high-powered needs.

The majority of businesses however will purchase in bulk PC’s with median to high-end processors since the
they have a technological shelf-life of 2-3 years before they approach obsolescence depending on how
advanced the machines are at the time of purchase. The costs have to be balances with the cost of
inevitably having to upgrade and/or replace the equipment down the road.

The lower end processors will likely be purchased by novice or entry-level computer users or in bulk by
institutions such as elementary schools that do not necessarily require the best and most current
technologies.

7. Technology – Being the first in the market to have a 64 bit processor, AMD clearly has the edge
technologically and as mentioned earlier its greatest appeal is to it’s previously carved niche, the PC
hobbyist who is constantly seeking the “latest and greatest” to achieve maximum performance in the most
demanding computer applications, the computer games.

Because Intel has yet to bring it’s own 64 bit processor to the market, Intel has released an upgraded
version of their 32 bit Desktop processor called the Pentium 4 Extreme Edition. The extreme edition
processor basically incorporates some of the technologies from its Xeon Line of high-end 32 bit Server processors such as adding a 2MB Level 3 (L3) Cache on top of its 512KB L2 Cache, which basically makes the processor process faster compared to the regular P4. They have marketed this line of processors to the PC enthusiasts and those with high-end processing needs and they have priced it competitively against the Athlon 64 processor.

In certain tests, Intel's 32 bit “Extreme Edition” wound up performing faster than the 64 bit Athlon. To be fair 64 bit software has yet to be created to truly take advantage of its processing power, but with a 64 bit processor can theoretically process 2x faster than an otherwise equivalent 32 bit processor given software that takes advantage of that 64 bit architecture.

8. Social Cultural – Personal Computers have not only become part of business but a part of everyday life. It has become not only a tool for productivity and communication, but a source of leisure as well. Even those who claim to not like computers much find themselves working with PC's all the time in their jobs, in school, communicating with family and friends, etc. AMD hopes to not only stay alive, but thrive especially in the niche they have carved for themselves in the high-end and PC enthusiast's market. As long as there is a better product out there, there will be people more than willing to buy it and flaunt it.

III. Marketing Mix Variables

1. Target Market – Until AMD can form more strategic alliances with PC OEM’s their target market will lie largely with PC enthusiasts while Intel still enjoys its huge market share thanks largely Intel’s own strategic alliances along with the one time rapid upgrading of its own line of 32 bit processors. Intel on the other hand is in the position to focus on a broad spectrum of processing needs from economy (Celeron) to mobile (Centrino) to middle-of-the-road (Pentium 4) to high-end (P4 Extreme).

2. Product – AMD has remained competitive by bringing in less expensive processors to the market and especially by raising the bar in terms of cutting-edge technology by putting the jump on Intel in the 64-bit processor realm.

3. Placement (Distribution) – With Intel’s dominant market share and strategic alliances it has the distinct advantage in terms of distribution. Anywhere you can possibly buy a PC through retail channels, they either sell Intel exclusively or they offer both Intel and AMD choices.

4. Promotional – Neither Intel nor AMD are currently running any special promotions.

5. Price – The top of the line AMD Athlon 64 – FX 53 Processor is around $761.00, while Intel’s top of the line Pentium 4 3.4 GHz Extreme Edition retails for $995.00, According to (http://www.dumpinggoods.com)

IV. Bibliography: Additional Sources
