Executive Summary

For the first time in over a year, signs of a rebounding economy have finally surfaced. We believe over the past year that the information technology sector has continued to remain relatively strong despite the negative events some of which include a sluggish economy, events of September 11th, and the war in Afghanistan. It is our feeling that the main impetus for the economic recovery lies in increased consumer strength. However, businesses are still reluctant to start spending on capital equipment and inventories. We expect a market rally to begin in February, 2002. We expect to see continued economic recovery and upward trends in the markets well into the second quarter.

We believe that the Fed’s decision to not further reduce interest rates is a signal that the economy will rebound. With recent 2002 earnings upgrades, pullback in stock prices, and the recent bound rally has created an attractive investment opportunity. The spread between forward-earnings yield on the S&P 500 and the yield on the 10-year government bond has narrowed significantly as suggested by the graph below. The relative gap between stocks and bonds has diminished.

Source: Investavenue.com
Our recommendation for the Wright Fund is as follows: Industries within the technology sector may be over weighted or underweighted depending upon the analysts’ views. Our goal is to be market weighted.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software &amp; Services</td>
<td>Market-weight</td>
</tr>
<tr>
<td>Computer Networking</td>
<td>Market-weight</td>
</tr>
<tr>
<td>Communications Equipment</td>
<td>Underweight</td>
</tr>
<tr>
<td>Semiconductors</td>
<td>Market-weight</td>
</tr>
<tr>
<td>Hardware</td>
<td>Market-weight</td>
</tr>
</tbody>
</table>

Despite our current underweight position within the technology sector, we now seek to market-weight each of our individual stocks we hold relative to their S&P 500 weighting. Our strategy is to add to our current high quality large market capitalization company holdings. Our diversification strategy is twofold. First, we intend to reduce our software holdings in order to balance our segment holding within the IT sector. Secondly, we are looking into adding small to mid-cap companies.
Software Overview & Industry:

The past year has provided a number of challenges for the computer Software and Services industry. Unfortunately, these challenges have ranged from a slowing economy and the federal antitrust lawsuits to the terrible terrorist attacks that occurred on September 11, 2001. The slowing of the economy over the past year had led to a continual and significant decline in software sales. In addition, the prevailing doubt by many people in the industry that the end of the economic slowdown is near has hurt many companies in the computer hardware industry and thus, reduced the demand for software and computer services. The events of September 11 greatly reinforced this negative sentiment by many concerning the future health of the economy. It is very likely that the impact of this event on the overall economy and especially this industry will be felt for some time to come. The legal troubles for the industry’s leader Microsoft Corporation only serve to add to the uncertainty of the future growth of the industry. In addition to the enormous legal charges, the continued appeals process and the addition of further lawsuits by competitor’s like AOL Time Warner, decrease the predictability of the future evolution and growth of the industry.

The software industry nearly lost approximately 25% when compared to the S&P 500. This drop is in part due to the worldwide economic downturn in conjunction with the market realization that stocks, particularly technology stocks, have been greatly overvalued. When the economy starts to slow, businesses and consumers defer buying costly and nonessential items like computers and computer software till later periods. Thus, revenues and profits of software companies have continued to fall sharply with the decrease in sales. This decrease in firm
profitability and potential future growth has lead to a drastic decrease the stock prices for many companies, especially those that already had over inflated price to earnings ratios.

As the economy continues to weaken and the future outlook of the economy becomes less clear, many areas of the software sector will continue to be negatively impacted. I believe that the areas of the software sector which will continue be the hardest hit are, operating system software (OS), supply chain management software (SCM) and customer relation management (CRM). The weakness of the Original Equipment Manufacturers (OEM) computer sales has lead to a decrease in the demand for the OS software that runs those computers. The SCM and CRM software demand will continue to weaken as the demand for goods and services continues to be sluggish.

However, there are areas of the software sector that should continue to remain relatively strong in comparison with the rest of the sector. With the increased emphasis on security and defense against terrorism, the demand for Storage and Internet security software should continue to increase. The makers of software for non-Personal Computing (PC) devices should also see continued strength in sales and revenues. With the increased proliferation and popularity of these devices that include cellular phones, personal digital assistants (PDA’s), cable television devices and hand held PC’s, the demand for the software that are used in those devices will continue to increase.

Software companies are still an attractive buy in the long term, especially considering the enormous growth potential that the industry will benefit from as technology continues to be increasingly pervasive in everyone’s daily life. In addition, the vast number of untapped areas of the global marketplace will provide demand for computer software as the need for technology increases. In particular, I recommend that software companies who developing software in the following markets should be closely observed due to their high growth potential.

1. Internet security and virus protection software
2. Non-Personal Computing software
3. Customer relationship management software
4. Supply chain management software
5. Entertainment Software
6. Applet software, which can run on any operating system

All of these areas of the software sector possess the potential for good performance in the long term based upon their ability to capitalize on future technological trends.

**Computer Services Overview & Outlook**

The rapid growth of the computer services industry over the past several years have slowed due to the current economic downturn, the continued effects of the Internet bubble burst and the events of September 11, 2002. All three of these events have slowed the growth in the computer services sector primarily because they have caused a decrease in information technology (IT) spending and the slowed growth of business-to-business (B2B) and e-commerce marketplace and the slowed demand for enterprise resource planning (ERP) related services. In spite of the negative implications of these events, many computer services companies have continued to
experience sales and revenue growth as a result of the growing demand for outsourcing. The increase in emphasis by companies to streamline their operations and reduce costs in the face of growing competition caused by the weak economy and increased globalization, has created an especially strong for demand business process outsourcing (BPO) and application service providers (ASP). This trend towards increased outsourcing demand had not only led to increased revenues in the short term but with the increased in long term bookings, steady future revenue is also better guaranteed. This reliable growth and stable cash inflows provide investors some potentially very attractive long-term investment opportunities. The ability for computer services companies to maintain relatively healthy financial positions and steady growth even in times of economic slowdown increases the attractiveness of their risk profile due the increase in the predictability of future revenues.

The computer services sector is largely comprised companies that fall into one of two main segments: professional services and processing services. The professional services segment comprises a wide array of services that include systems integration, custom programming, technological education and training, consulting and systems programming. Among all of these services the demand is greatest for systems integration, hardware installation and support, and outsourcing. The processing service segment is made up of companies that process (collect, organize and store) the transactions and data for customers, usually with their own proprietary software. Those companies which are able to continue to maintain recurring revenues capitalize on the trend towards increased outsourcing and electronic transactions; survive industry consolidation, and capture economies of scale will be successful in the long term. In addition, success is also greatly dependent on the ability of a computer services company to be able to capture increased market share of the increasingly growing global demand for professional and processing computer services.

The bottom line is that the sluggish economy provides both opportunities for increased and decreased sales and revenues. On one hand the events of the past year have hurt the computer services segment due to the decrease in IT spending by companies caused by current slowed growth and decreased demand and future uncertainty, but these events also increase the demand of companies to outsource to remain competitive in the poor economy.
Future Growth Opportunities

The biggest area for growth in the software and services segment lies within the great potential increase in the international market demand for storage and Internet security software. The International Data Corporation (IT consulting firm) predicts that this market will expand at a compound annual growth rate of approximately 23% over the next four years. It projects that sales will be over $14 billion by the year 2005. I believe that even this estimate is a bit conservative considering the great increase in demand for antivirus and firewall software by the commercial and individual consumer concerned with increased terrorist activity around the world. In addition, as eCommerce becomes ever increasingly more popular, there will be an increasing desire from both consumers and retailers to ensure secure transactions.

Source: International Data Corp.
The demand for non-PC devices will continue to increase and so will the increased demand for operating system (OS) and other software for these devices. International Data Corporation has projected that shipments of handheld devices will increase at an annual compound growth rate of approximately 39% over the next four years. This does not even include the many other non-PC devices that will require the same type of software. As the world becomes increasingly mobile and less dependent of PC’s, the demand for other forms of portable devices as well as the need for the software that powers those devices will also increase.

**CUSTOMER RELATIONSHIP MANAGEMENT (CRM)**

**REVENUE FORECAST**

Despite the fact that the growth of the CRM market has decreased as a result of the sluggish economy in the short run, the future displays a positive outlook for the growth of this market in the long-run. I believe that the demand for CRM software, which allows companies to cut costs and provide better customer service through the automation of front office operations, will only increase in the future. The Cahners In-Stat Group (IT consulting firm) predicts that this market will expand at a compound annual growth rate of approximately 34% over the next four years.

**PROJECTED GROWTH IN SALES OF GLOBAL ENTERTAINMENT GAMES (In $Billions)**

<table>
<thead>
<tr>
<th>Category</th>
<th>2001</th>
<th>2006</th>
<th>% CHG.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Console software</td>
<td>9.64</td>
<td>18.34</td>
<td>90</td>
</tr>
<tr>
<td>Console hardware</td>
<td>9.19</td>
<td>14.29</td>
<td>55</td>
</tr>
<tr>
<td>PC software</td>
<td>7.12</td>
<td>8.33</td>
<td>17</td>
</tr>
<tr>
<td>Handheld software</td>
<td>2.89</td>
<td>3.76</td>
<td>30</td>
</tr>
<tr>
<td>Handheld hardware</td>
<td>2.73</td>
<td>3.40</td>
<td>25</td>
</tr>
<tr>
<td>Rental</td>
<td>3.14</td>
<td>4.14</td>
<td>32</td>
</tr>
<tr>
<td>Online</td>
<td>0.57</td>
<td>5.65</td>
<td>891</td>
</tr>
<tr>
<td>Interactive TV</td>
<td>0.08</td>
<td>6.15</td>
<td>7,584</td>
</tr>
<tr>
<td>Mobile</td>
<td>0.76</td>
<td>11.01</td>
<td>1,354</td>
</tr>
<tr>
<td>Arcades</td>
<td>13.86</td>
<td>10.66</td>
<td>(23)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>49.99</td>
<td>85.71</td>
<td>71</td>
</tr>
</tbody>
</table>

Source: Cahners In-Stat Group; Informa Media Group; *The Wall Street Journal*
The potential growth of the entertainment game software is only now being capitalized upon by the major players in the software and services sector. Microsoft, who just recently introduced the X-BOX, is trying to capture substantial market share of this growing market. As software and hardware decrease, the demand for the entertainment software will increase due to the increased accessibility of the product to more consumers. In addition, the increased competition in this market has increased the quality and variety of products which has also led to an increase in demand. It is still early to tell if new ventures, such as the X-BOX, will continue to realize increased revenue growth but I believe that this previously overlooked segment of the market has great potential for future growth.

The computer services segment is greatly dependent on the health and growth of the economy, especially the well being of the entire IT sector. This is due to the fact that during hard and uncertain economic times companies shrink their IT service expenditures. The increasing growth of eCommerce in the future will surely increase the demand for the computer services that enable companies to participate in business-to-business (B2B) and business-to-consumer (C2C) on the Internet. The importance and possible future long term growth of Enterprise Resource Management (ERM) and Customer Relationship Management (CRM) can be seen in this survey conducted by International Data Corporation:

![Chart showing top North American Information Technology Issues]

According to this data provided by International Data Corporation, which was based on a survey of information services executives which asked them to rank the top two areas of IT computer services that are most important to them and their corporation, the number one priority for IT budget spending is security/networking infrastructure. With the events of September 11 and the increase in eCommerce over the internet the number one priority is obviously security and networking infrastructure services. In addition, both CRM and ERM are very high priorities and
as soon as the economy rebounds, IT budgets will devote resources to these areas. The growth potential for ERM and CRM looks very promising and is an area of potential growth.

Wright Fund Software Holdings:

![Graph showing stock performance of BEA Systems](image)

**BEA Systems, Inc. (BEAS)**

- BEA Systems, Inc. is an e-business infrastructure software company. BEA’s products are used as a deployment platform for Internet-based applications including custom-built and packaged applications, and as a means for robust enterprise application integration among mainframe, client/server and Internet-based applications.
- For the nine months ended 10/31/01, revenues rose 32% to $744.6 million. The company reported a net loss of $46.3 million; up from $1.9 million (this net loss reflects a $73.1 million impairment of acquired intangible assets). The fourth quarter earnings results will be announced on February 21, 2002.
- BEAS revenue growth is derived from the continued adoption of software solutions, the addition of new customer accounts and increased product and service offerings.
- In the past month a number of new customers have decided to use Bea Systems, BEA WebLogic E-Business Platform(TM) to include Transentric and M/A Com.
- BEA was first to market with key J2EE 1.3 technologies. Many BEA customers such as Networkcar, Tele Atlas and the Royal Bank of Scotland are already benefiting from this simplified application development and standards-based integration of J2EE 1.3 in real production Web Services and e-business applications -- a year ahead of the rest of the market.
• IBM remains a big formidable competitor to the leadership position of BEAS in the application server market with its aggressive pricing policy and increasing functionalities of its system.

Microsoft Corporation (MSFT)
• Microsoft Corporation develops, manufactures, licenses and supports a wide variety of software products, including scalable operating systems, worker productivity applications, software development tools and server applications.
• For the six months ended 12/01, revenues rose 13% to $13.87 billion. Net income before accounting change fell 31% to $3.57 billion. The company also recorded a legal charge in excess of $660 million as a result of the anti-trust litigation initiated by the federal government.
• This increase in revenue is mainly derived from launch of Windows XP, Xbox and MSN7.
• Microsoft has sold over 17 million copies of Windows XP since its October 2001 release, making XP the fastest-selling operating system in company history. The Xbox video game system has topped expectations with sales of 1.5 million units in the last six weeks of 2001. These are both signs of continued high revenue growth potential.
• The continued legal troubles for Microsoft will continue to cast uncertainty over the future of the corporation as well as reduce profits due to increased legal charges.
Oracle Corporation (ORCL)

- Oracle Corporation develops, manufactures, markets and distributes computer software that helps corporations manage and grow their businesses, including systems software and business applications software.
- For the six months ended 11/30/01, revenues fell 7% to $4.6 billion. Net income decreased 6% to $1.06 billion. This reduction in revenues is not only a direct result of decreasing demand due to the slowing economy, especially the reduction of licensing fees.
- Oracle Corp. states that it expects to report third quarter earnings of $0.10 per share and fourth quarter earnings between $0.17 and $0.18 per share. This exceeds most Wall Street analysts who on average are expecting the Company to earn $0.10 per share in the third quarter and $0.17 per share in the fourth quarter.
- Oracle met expectations with November-quarter earnings of $0.10 per share
- As soon as the economy rebounds the demand for Oracle products will rise as growth in the business sector increases.

Conclusions

I strongly believe that software industry is likely to be the first industry out of the technology sector to experience recovery from the current market downturn. In fact, the recovery might already be occurring as software companies such as Siebel report better than expected earnings and other companies such as Oracle are predicting better than expected earnings for the fourth Quarter. The market over the last 6 months has not been kind to many of the companies in this segment of the sector but most of our holding, such as IBM are holding up well. I agree with my predecessor when he stated that we should consider taking advantage of the depressed prices to possibly move into some of the growth areas in the software industry, like CRM, SCM, Security,
web application and ASP software. As I stated earlier, even in a down economy there is still great demand for outsourcing and the other computer services that will help companies remain competitive. Right now 60 percent of the Wright Fund Technology Sector is composed of software and with the exception of a possible acquisition of SEBL; I don’t envision increasing our position. Instead I would like to reshuffle or lighten our software portfolio in order to diversify our holdings by adding more weight towards computer services stocks.

I consider computer services sector a potentially good buying opportunity. The sector is an excellent hedge to the downturn of the information technology industry. Again I agree with my predecessor when he states that many companies, especially those in a sluggish economy, are increasingly looking to outsource their business functions to reduce their operational leverage and become more flexible in pursing their competitive strategies. In addition, the advanced bookings provide predictable and stable revenue patterns. Currently the right Fund portfolio has no stocks in this sector and purchase of a stock in this sector is a very viable option. We should keep track of some well-positioned companies and take advantage of the currently market downturn. In addition, I also feel that the sector is currently comprised of large capitalization stocks and there are no mid-sized or small-cap companies within the sector. I would like to add some smaller cap growth stocks to the portfolio in order increase the diversification of the IT sector portfolio.

Stocks recommended to look at include: SEBL, NOVL, ADP, EDS, SDS, EMC, and ERTS.

References
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- www.finance.lycos.com
- www.moneycentral.msn.com
- www.quote.com
- www.usatoday.com
- www.x-rates.com
- www.bigcharts.com
- www.cbs.marketwatch.com
- www.ft.marketwatch.com
Recommendation
We recommend a market-weight position in the industry for the spring of 2002 semester. Near-term outlook of capital spending by large enterprise customers and service providers remains weak, however, the improving economic environment should bolster the beaten down technology sector. We favor this industry particularly due to better growth prospects in LAN, wireless, and access equipment. We further recommend holding onto the Cisco position because the company is the dominant player in the computer networking industry and it has a proven track record. Cisco is also better positioned financially than its competitors to survive the tough economic environment.

Overview
The computer networking industry segment of the S&P 500 consists mainly of few large companies including Cisco Systems, 3Com, and Network Appliance and other smaller players like Juniper Networks, Foundry Networks, Enterasys Networks, and Extreme Networks.

Figure 1, shows the performance of the S&P Computer Networking index relative to the S&P 500 over the past year. The Computer Networking index has significantly underperformed relative to the S&P500 index.

Source: BigCharts.com
The slowdown in the U.S. Economy has had a dramatic effect on equity markets in general. With weak service provider and large enterprise capital expenditure projections in technology, the computer networking industry has been hit particularly hard. With the Fed’s recent decision to not reduce interest rates further, the outlook seems to be improving. We believe inventory levels are running low and most companies are done with their restructuring programs. The economic recovery will boost capital expenditures aiding networking companies.

Current M.A. Wright Fund holdings in the computer networking industry consist of Cisco Systems. We intend to add some small to mid-cap names to the portfolio for diversification.

<table>
<thead>
<tr>
<th>Company</th>
<th>Price (02/05/02)</th>
<th>52 week range</th>
<th>Mkt Cap</th>
<th>P/E</th>
<th>EPS (2002E)</th>
<th>EPS (2003E)</th>
<th>Wright Fund Weight</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco Systems</td>
<td>$18.50</td>
<td>$11.04-$36.19</td>
<td>$134.3BB</td>
<td>N/A</td>
<td>0.22</td>
<td>0.41</td>
<td>1.8%</td>
<td>Hold</td>
</tr>
</tbody>
</table>

Source: Bloomberg

Based upon the market close as of February 5, 2002, the investment in Cisco has resulted a negative return of 58.6% since our purchase in early 2000.

**Industry Outlook & Trends**

Purchases of computer networking equipment are being deferred as companies’ technology and telecommunications budgets have been cut sharply in 2001. The impact of these cuts on the computer networking industry has been severe. The industry appears to be gaining momentum as the economy is showing signs of strength.

After heavy spending in 1999 and 2000, growth has stagnated in 2001. The slowdown in investments in computer networking products will only last over the short term with robust growth to follow. S&P expects the computer networking products market to grow at 30% annually in the next three to five years. The demand for networking products is driven by the increasing use of the internet. Additionally, the range of devices used to access the internet, such as mobile phones, PDA’s, and other devices in increasing. This further spurs demand for product in this sector. The complexity of networking devices will increase as more devices interact with the internet at different times and from different locations.

As the dominant traffic on telecommunications networks shifts to data, computer networking products will become the more prevalent telecommunications products. Communication technology has shifted from circuit-switching technology to packet-based networks.
The computer networking industry’s focus is on wide area network (WAN) and local area network (LAN) switches and routers. The switch market continues to be strong with a push towards more intelligent switching technologies. Researchers believe that as switches become more intelligent, they may replace routers.

The current LAN market is for 10/100 Mbps switches. In years 2002-2004, it is expected that the Gigabit Ethernet will be the primary driver of growth in the LAN market. The Gigabit Ethernet market is projected to grow at a phenomenal rate of 52% through the year 2004.

Figure 2 illustrates where the growth is over the next 5 years within the LAN switching market.

Figure 2

![Growth of LAN Switch Market](chart)

Source: S&P Industry Report

The computer networking market is very dynamic and constantly changing. It is important to recognize that a company’s innovative ability and access to cash to fund new product opportunities is critical.
**Company Information**

Figure 3 illustrates the relative performance of leading computer networking stocks over the past year. All companies underperformed the S&P 500 index.

Figure 3

![Figure 3](image_url)

Source: BigCharts.com

**Leading Computer Networking Companies**

<table>
<thead>
<tr>
<th>Company</th>
<th>Ticker</th>
<th>Revenue (ttm) $mm</th>
<th>Price (02/05/02)</th>
<th>Growth Rate (next 5yr)</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco</td>
<td>CSCO</td>
<td>$20,220</td>
<td>$18.50</td>
<td>22.7%</td>
<td>1.681</td>
</tr>
<tr>
<td>3Com</td>
<td>COMS</td>
<td>$1,800</td>
<td>$5.72</td>
<td>12.5%</td>
<td>1.306</td>
</tr>
<tr>
<td>Enterasys Networks</td>
<td>ETS</td>
<td>$938.6</td>
<td>$4.00</td>
<td>23.6%</td>
<td>1.687</td>
</tr>
<tr>
<td>Juniper Networks</td>
<td>JNPR</td>
<td>$887</td>
<td>$13.51</td>
<td>25.6%</td>
<td>2.236</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>EXTR</td>
<td>$444.5</td>
<td>$11.50</td>
<td>29.8%</td>
<td>2.023</td>
</tr>
</tbody>
</table>

Source: Bloomberg, Yahoo

**Cisco**

- Leading supplier of networking equipment for the Internet. Three key markets are Routers, Switches, and Access. Aggregate growth of these markets range from 16% to 23% approximately over the next 5 years.
- Cisco continues to maintain a leadership position. With close to $19 billion in cash and a strong balance sheet, it continues to invest in R&D and dominate the market.
• Strengths in sales and marketing are tremendous. Largest base of customers amongst its peers and able to convince customers to upgrade to new technologies.
• Major wins in the China market. Cisco has won major Metro Area Network and IP/Optical backbone contracts in China.
• Most well integrated IP router solutions for Metro Area and long haul optical networks.
• Future growth in the service provider market. Currently Cisco has a 30% market share. It is proving difficult for Cisco to compete with traditional telecommunications equipment producers such as Northern Telecom and Lucent. Many of these vendors have strong relationships with the service providers.
• Earnings are expected to decline to $0.22 per share in fiscal year 2002, down from $0.41. For fiscal year 2003, EPS expected to grow by 86.4% to $0.41 as demand for networking equipment picks up.
• Recently announced a $3 billion stock repurchase plan.

3Com
• Company has restructured into three main businesses and operating units. Business Connectivity Company focuses on network access for the enterprise market. The Business Networks Company focuses on the LAN switching market. The CommWorks unit is focused on the telecom access market, service 16 of the top 20 carriers.
• Near term prospects are encouraging with aggressive expense cutting and the expected pickup in enterprise spending (currently 80% of 3Com’s revenue base). The company is expected to improve its gross margin to the low 40% range which is partly due to recent outsourcing initiatives.
• Focused on high margin core products including Gigabit Ethernet, wireless, and IP telephony connections technologies.
• With $1.4 billion in cash and just $9.1 million in debt company is well positioned from a balance sheet standpoint. Known for its innovation, 3Com has the funding and research capabilities to explore high growth product opportunities.

Enterasys Networks
• Most recent victim of the accounting issues that has shocked the market since the collapse of Enron. Enterasys announced last week it is being investigated by the SEC for accounting issues. Its stock price fell 61% that day. We will watch the development closely for upside potential especially if the investigation yields nothing new.
• There remains a lot of confusion over Enterasys’ parent company transformation into smaller companies. Enterasys is the resulting entity after the spin off of Riverstone Networks from Cabletron.
• Enterasys remains the number 1 vendor of modular layer 3 switching and layer 3 modular gigabit markets. The company is second only to Cisco in overall Enterprise networking market share.
• First rate end-to-end Enterprise networking products including wireless access.
• With excellent management and best in its class products, Enterasys is a formidable competitor to Cisco. With a much smaller size, Enterasys is more nimble and better able to focus on growth opportunities. The balance sheet is well positioned with $250 million in cash and no debt.

Juniper Networks
• Technology leader in the high growth core IP router market which is the backbone of the Internet. It competes directly with Cisco in this market. Juniper is also experiencing near-term challenges due to reduction in capital expenditure by service providers, its main customers.
• Most recently, Juniper announced 4th quarter results in line with estimates. Juniper experienced significant weakness in the Asian and international markets where capital expenditure has experienced greater downturn than in the U.S.
• It has the potential to penetrate the IP backbone market further with an increasingly advanced product suite.

Extreme Networks
• Extreme is focused on the enterprise market with a majority of its products geared towards the LAN switching market.
• While it reported in line with its quarterly results, Extreme is experiencing sequential revenue growth, improvement in its gross margins, and price stability.
• A well managed company that has

Overall Sector Review
• Growth rates for the computer networking sector remain high at 15% - 30% for the next five years. Companies have had difficulty with recent earnings due to the global economic slowdown. There is a lot of focus at most companies to improve gross margins via internal expense management programs. Gross margins in this sector remain between 40% and 65%.

• While the economic recovery expected in year 2002 should help these firms turn around their sales trends, we should pay close attention to the capital position of these firms. Our recommendation is to seek out firms with large cash positions and very little debt. In a rapidly changing industry such as this, it is important that firms have easy access to capital to fund product development. In the current economy it proves to be more difficult to raise capital in the markets. Hence we recommend companies with solid balance sheets.
• It is imperative to look at each individual company product lines. Are they geared towards the next generation high growth products?

• Finally, it is important to consider client base. Cisco currently has the largest and most diverse client base. Some of the smaller names are heavily exposed to a few large customers that could add a lot of uncertainty to its cash flows.

Recommendation
We recommend an underweight position in the industry for the spring of 2002 semester. Near-term outlook of capital spending by service providers remains weak. We recommend the enterprise market over the telecom market. This is in part due to excess bandwidth and overcapacity. Furthermore, the price instability of bandwidth is an issue. Service provider capital expenditure recovery may not materialize any time soon.

Overview
The communications equipment industry segment of the S&P 500 consists mainly of large companies with a wide variety of products and technologies. Some leading names include Nortel Networks, Lucent, Ciena, Corning, JDS Uniphase, Motorola, and Qualcomm. These are examples of diverse communications equipment companies focused on different segments of the communications equipment sector.

Figure 1 illustrates the relative performance of the communications equipment index versus the S&P 500. The sector clearly has suffered.

Source: BigCharts.com
The communications equipment industry is highly dependent on service providers who buy equipment to lay national and global telecommunications networks. Due to the steady decline of voice pricing, traditionally the largest revenue generator for service providers, most service providers are having a difficult time. The foray of CLECs (Competitive Local Exchange Carriers) into the telecommunications area to rapidly build data communications networks has also suffered major setbacks. Lack of revenue generation and immense capital expenditures to build networks from scratch, has led to many bankruptcies.

With the advent of optical networking technology, service providers have overbuilt their networks. There is overcapacity in the long haul market. The market potential in the near-term is in access products on the edge of these networks. Current access technologies considerably lag in speed, resulting in close to 50% underutilization of carrier networks. Growth is seen in areas such as Cable and DSL modem technology, wireless access technology, Ethernet technology.

Currently, the M.A. Wright Fund does not have any holdings in the communications equipment industry.

**Company Information**

Figure 3 illustrates the performance of the four major players in this sector against the S&P 500 for the past year. Figure 4 illustrates the dramatic underperformance of the optical segment within this sector.

![Graph](image-url)
Leading Communications Equipment Companies

<table>
<thead>
<tr>
<th>Company</th>
<th>Ticker</th>
<th>Revenue (ttm) $mm</th>
<th>Price (02/05/02)</th>
<th>Growth Rate (next 5yr)</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorola</td>
<td>MOT</td>
<td>$30,000</td>
<td>$11.93</td>
<td>16.7%</td>
<td>1.497</td>
</tr>
<tr>
<td>Nortel Networks</td>
<td>NT</td>
<td>$30,275</td>
<td>$6.20</td>
<td>17.7%</td>
<td>1.658</td>
</tr>
<tr>
<td>Lucent</td>
<td>LU</td>
<td>$21,294</td>
<td>$5.75</td>
<td>12.7%</td>
<td>1.630</td>
</tr>
<tr>
<td>Corning</td>
<td>GLW</td>
<td>$7,273</td>
<td>$6.35</td>
<td>16.8%</td>
<td>1.785</td>
</tr>
<tr>
<td>Qualcomm</td>
<td>QCOM</td>
<td>$2,680</td>
<td>$39.81</td>
<td>28.7%</td>
<td>1.492</td>
</tr>
</tbody>
</table>

Source: Bloomberg, Yahoo

We will focus our discussion on the top three companies in this sector as there is tremendous value in these stocks. These stocks have been severely beaten down and present a good long term investment opportunity.

Motorola
- Motorola, Inc. provides integrated communications solutions and embedded electronic solutions. The company’s solutions include software-enhanced wireless telephone, messaging products, and networking and Internet access products.
- Has lost top spot in mobile communications handset to Nokia due to less innovative technology and weaker operational model.
• Motorola has undergone major restructuring to improve its bottom line. It fired almost one-third its staff to help reduce expenses and deal with the weak global economy.

Nortel Networks
• Nortel Networks Corporation is a global supplier of networking solutions and services that support the Internet and other public and private data, voice and video networks using wireless and other wireline technologies.
• Nortel is focused on building high performance products for the Internet. It produces both internet infrastructure and service-enabling solutions.
• Recently completed the build out of China’s high speed communication network. The project was a major win for NT worth close to $100 million.
• In the forth quarter, Nortel lost $1.83 billion and lowered first quarter 2002 projections by 10%.

Lucent
• Lucent is a major developer and producer of communications products.
• Lucent has undergone a major restructuring and the face of the company has completely changed.
• The telecom giant has slashed jobs and sold of non-core money losing operations. It financial position is expected to improve over the next few quarters.
• In its most recent quarter, Lucent reported better than expected revenue of $3.5 billion. It is expected to break even in two quarters is revenue growth keeps pace with its current 15% growth.

Hardware Overview

The computer hardware industry near term outlook is being overwhelmed by a slow down in the US economy. Many companies have cut information technology budgets and are realizing the amount of over spending. This, as well as, overcapacity and competition have contributed significantly to the significant price declines throughout the hardware sector. As analysts, we wish to identify those companies that have strong business prospects within the industry.

12 Month Amex Computer Hardware Equipment Index (HEQ) Performance vs. the S&P 500
Industry Outlook and Trends

• **Major Players in the Computer Hardware Sector**
  The computer industry is primarily dominated by large computer manufacturers. The companies that include, Compaq Computer, IBM Corp., Dell Computer and Hewlett Packard, encompass approximately 40% of industry sales volume.

• **Near-Term Uncertainty High, but Investment Prospects Look Promising**
  The computer industry historically faces high business risk because of its emphasis on price competition, short product life cycles, abrupt changes in growth and demand, and high investment requirements. However, the long-term prospects look promising as the industry is shifting to higher growth markets.

• **Industry Shifting to Higher Growth Markets**
  The computer hardware industry is focusing attention on the server, services, and storage sectors for growth due to the slowdown in the desktop segment. In addition, computer manufacturers are likely to bundle their servers with services and storage devices which is attractive to customers. Customers are now buying more hardware from one vendor rather than purchasing from separate vendors whose hardware may not function as a cohesive unit from separate companies. They are linking computer systems together to enhance efficiency and productivity.

• **Industry Factors: Keys to Success**
  We want to find good investment prospects within the hardware industry. We should focus on companies that have aggressive pricing as that is necessary to increase market share. Also, due to the price competition, choosing a company with strong cost control is critical and it is necessary that they don’t have high inventory costs and unused manufacturing capacity.
Largest Computer Hardware Manufacturers (based on last 12 month sales)

<table>
<thead>
<tr>
<th>Company</th>
<th>Ticker</th>
<th>Sales (past 12 months - MM)</th>
<th>Current Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. IBM</td>
<td>IBM</td>
<td>$88,396</td>
<td>$107.30</td>
</tr>
<tr>
<td>2. Hewlett Packard</td>
<td>HWP</td>
<td>$48,782</td>
<td>$30.54</td>
</tr>
<tr>
<td>3. Compaq Computer</td>
<td>CPQ</td>
<td>$42,383</td>
<td>$12.22</td>
</tr>
<tr>
<td>4. Dell Computer</td>
<td>DELL</td>
<td>$31,888</td>
<td>$26.71</td>
</tr>
<tr>
<td>5. Xerox</td>
<td>XRX</td>
<td>$18,632</td>
<td>$11.03</td>
</tr>
<tr>
<td>6. Sun Microsystems</td>
<td>SUNW</td>
<td>$15,721</td>
<td>$10.30</td>
</tr>
</tbody>
</table>

Wright Fund Hardware Holdings
Currently in the Wright Fund our only hardware holding is IBM, however, over the past 12 months we have held positions in the following other hardware names: EMC Corporation (EMC), and Sun Microsystems (SUNW). The 12-month performance of these stocks, plotted against the Amex Computer Hardware Index (HWI), and the S&P 500 is shown in the table below.
International Business Machines (IBM)
- Company has consistent earnings and cash flow growth and relatively high degree of earnings predictability.
- Due to anticipated increases in software, web services, and Linux based spending, company is in a good position for growth.

Dell Computer (DELL)
- Company has consistently grown revenues and EPS which has exceeded the industry average. However, the company is vulnerable to the recent rise in PC memory chips which should limit gross margin growth.
- Dell Computers business model of selling computers by mailorder and strong brand name will enable their shares to outperform the market over the next year.

Sun Microsystems (SUNW)
- Company recently announced plans to purchase Star office systems which allows internet users to use an office suite of applications through a stationary server on the internet without buying shrink wrapped software applications. This will increase demand for Sun servers.
- Company formed an alliance with AOL/Netscape which promotes more usage of their Java language and sales of its server systems. This is expected to enhance the value of Sun Microsystem product offerings at the expense of Microsoft.
- Many believe that management needs to make additional, and significant, cost changes including possible layoffs given current global outlook.

Others:
- Other companies within the hardware sector that seem to fit our investment criteria include Hewlett Packard (HP), EMC Corporation (EMC).

Conclusion

We recommend an underweight position in the technology-hardware sector. There is much market uncertainty, and continued lack of visibility surrounding IT spending within the hardware segment. We currently hold one position in IBM and are confident that IBM has strong business prospects within the industry. Other future positions taken into the Wright Fund that fit our investment criteria are those listed above.

References:
- US Business Reporter – 1/25/02
- Fortune, Top Performing Companies 1/02
- www.bigcharts.com
- Bloomberg
Semiconductor Industry

Overview

The slowing US economy has resulted in faltering demand for semiconductor equipment and chips. This is due to desktop computer sales that have been declining for the last three quarters. There may be a permanent slow growth for the PC market since the market is almost saturated. Also, end markets for semiconductor chips such as wireless telephones have been declining as well. The chip industry weakness is due to higher inventory congestion of all electronic component distribution channels. In 1999, global semiconductor sales were $149 Billion. In 2000, sales rose 37% to $204 Billion and in 2001, there is a possibility that global semiconductor sales may decline as much as 30%.
Industry Outlook and Trends

- **Major Causes of Today’s Business Trough**
  1). Rising US interest rates in 2000 caused big business to hold back on further capital investment for plant and equipment. 2). There is significant overspending of information technology equipment resulting in faltering demand of new equipment. 3). The dot.com businesses that could not continue to boost sales of IT equipment.

- **Semiconductor Industry Benefits from Growth in Telecommunications**
  The growth in telecommunication services industry has spurred a corresponding boom in the semiconductor business. Due to the growth of wireless communication, the industry will face strong demand for semiconductor devices and demand for manufacturers who produce chips and mixed signal devices.

- **Chip Card Market Heats Up**
  Chip cards act as means of security for identification, access, and payment transactions. Chip cards are used in public pay phone cards to wireless communication cards. Chip cards unit volume should continue to grow as a result of new applications and the need for more security and efficiency with financial transactions.

- **International Outlook**
  International companies such as those in Korea and Japan will cut back on additional plant and equipment expansion because of declining demand in Asia and the inventory surplus. Chip demand is highly dependent on the demand for goods such as cellular phones, televisions, video games and other appliances. The current global slump is due primarily to the inventory surplus and imbalance of supply to demand in the international market.
Largest Semiconductor Manufacturers *(based on last 12 month sales)*

<table>
<thead>
<tr>
<th>Company</th>
<th>Ticker</th>
<th>Sales (past 12 months - MM)</th>
<th>Current Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intel</td>
<td>INTC</td>
<td>$33,726</td>
<td>$34.67</td>
</tr>
<tr>
<td>2. Solectron</td>
<td>SLR</td>
<td>$14,138</td>
<td>$11.46</td>
</tr>
<tr>
<td>3. Texas Instruments</td>
<td>TXN</td>
<td>$11,875</td>
<td>$30.50</td>
</tr>
<tr>
<td>4. Micron Technology Inc.</td>
<td>MU</td>
<td>$7,336</td>
<td>$34.85</td>
</tr>
<tr>
<td>5. Advanced Micro Devices</td>
<td>AMD</td>
<td>$4,644</td>
<td>$15.80</td>
</tr>
<tr>
<td>6. Sanmina</td>
<td>SANM</td>
<td>$3,912</td>
<td>$14.00</td>
</tr>
<tr>
<td>8. LSI Logic Corp.</td>
<td>LSI</td>
<td>$2,738</td>
<td>$16.28</td>
</tr>
<tr>
<td>9. Analog Devices</td>
<td>ADI</td>
<td>$2,578</td>
<td>$43.14</td>
</tr>
<tr>
<td>10. Vishay Intertechnology</td>
<td>VSH</td>
<td>$2,465</td>
<td>$18.11</td>
</tr>
</tbody>
</table>

Wright Fund Semiconductor Holdings:
Currently the Wright Fund holds no Semiconductor stocks. However, we have held and sold the following positions within the last year: Advanced Micro Devices (AMD), Texas Instruments (TXN), and Intel (INTC).

The 12-month performance of these stocks, plotted against the SOX, and the S&P 500 is shown in the chart below.
Advanced Micro Devices (AMD)
- AMD’s microprocessors, including the Athlon and the inexpensive Duron has helped close the gap between AMD and Intel.
- In order to compete successfully against Intel, AMD is now trying to transition to new process technologies at a faster pace and offer higher performance microprocessors in greater volumes.

Texas Instruments (TXN)
- Company reporting steady order and shipment rates of processors; with December showing surprising strength.
- Company is well diversified into wireless/digital/broadband product lines.

Intel (INTC)
- Due to the high demand for newest chip (P4), Intel has realized moderate financial success. Pentium 4 units shipments exceeded plan and more than doubled sequentially.
- Due to the weakening of the economy and rising US unemployment, retail channels will seem to slow in the first half of 2002. Also, the sustainability of the PC demand is questionable.

Others:
- Other companies within the semiconductor sector that seem to fit our investment criteria include Micron Technology Inc (MU), LSI Logic (LSI), and Analog Devices (ADI) among others.

Conclusion
We recommend an underweight position in the technology-semiconductor sector. There is market uncertainty, and continued lack of visibility surrounding the volatile semiconductor industry. Positions taken into the Wright Fund that fit our investment criteria are those listed above. The Wright Fund has held significant positions in Advanced Micro Devices (AMD), Texas Instruments (TXN), and Intel (INTC) over the past year. We believe that these stocks are good candidates for re-investment candidates to the Wright Fund given their strong business prospects within the industry.

References:
- US Business Reporter – 1/25/02
- Fortune, Top Performing Companies 1/02
- www.bigcharts.com
- Bloomberg