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New Rec: F5 Networks	(FFIV-\$68.00)	Sept. 30, 1999
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Position: Sell **Target:\$20** **Timing:2 (1=aggressive; 5=cautious)**

000\$	Q399	Q499e	Q100e	Q200e	1999e	2000e	2001e	2002e
Revs	7605	11156	13237	14955	25218	62013	79172	89500
EPS\$	-0.10	-0.02	0.00	0.01	-0.45	0.05	0.22	0.29
YYGro	n/a	n/a	n/a	n/a	n/a	146%	28%	13%
CnsRev	n/a	10300	10815	12005	24362	50936	79265	n/a
PSR	n/a	n/a	n/a	n/a	49	20	16	14
Consen	n/a	-0.04	-0.04	-0.03	-0.47	-0.04	0.37	n/a

CnsRev=Consensus Revenue Projections

Shs Out: 18.6M

Mkt. Cap: \$1,265M

FYE: Sept.

Summary: F5 Networks sells internet traffic management (ITM) solutions. 73% of sales are derived from the sale of the Big/IP load balancer, a hardware appliance that sits next to a web server and whose average selling price is about \$25,000. Since installation and support revenue accounted for 15% of total revenue, it seems reasonable to say that F5 has been primarily a one product company.

The market for ITM products was about \$100-\$150 million in 1999, according to "street" research. Collaborative Research, in the most definitive study available,

(www.collaborativeresearch.com) estimates the worldwide market at about \$130 million in 1998 and at about \$830 million in 2002. Interestingly, neither FFIV company literature nor "street" research tries to put an estimate on the 2002 market. We think that this omission is significant.

The reason that the market does not grow as fast as web usage in general is that the market estimate is for discrete products that are sold to manage traffic. The forecasted market does not include ITM functionality that is incorporated in switches or in routers, a market which is expected to grow much faster than the market for discrete devices. This is a key point in understanding the market potential for FFIV. It is possible that the market for discrete devices will actually be much smaller than is being currently estimated, and that the market for discrete devices could all but disappear. Such an outcome could render FFIV's current business model nearly valueless.

Indeed, the recent success of Alteon in the IPO market is instructive. Alteon's web switches incorporate "local" and "global" server load balancing. Foundry's "ServerIron" switch product (see table, below) also includes "an extensive suite of load balancing features," according to the company. Cisco may also be about to introduce routers and switches that incorporate ITM functionality into the product, making pricing for the functionality disappear into the overall product price. Such a move is logical, and could foreclose much of the high end of the market to discrete devices. In the future, we expect Cisco to continue to dominate the ITM market with a varied product offering, along with the other large switch vendors, Lucent and Nortel. Another important point to understand about the market is that over 50% of the market should be within the enterprise for intranets, not for general internet access. In our projections, we generously assume that about 40% of the market will be left to be divided up among smaller manufacturers of discrete devices such as F5.

F5 has a multitude of competitors. Below, we list thirteen such competitors, but more will probably appear. Cisco, by most estimates, already has about 50% of the market, and the balance of market share is very fragmented. We estimate that F5 may have about a 10% market share. Although we assume that F5 can maintain that share in the future, chances are high that it will be unable to do so.

The recent F5 deal with Extreme is also instructive. Extreme will incorporate F5's load balancing technology into some of its switches. While some see it as an endorsement of F5's technology, the deal also indicates that even F5 concedes the trend for load balancing to be incorporated into switches. F5 will receive a license fee from Extreme, to be recognized as revenue over the next six quarters. Our analysis indicates that the amount of revenue that F5 will receive from this source code license will be relatively minor.

Even if we generously assume that F5 gets about 22% of the maximum of 40% of the market that might be left to smaller vendors, that would give it only a 9% to 11% market share, about what it has today. A 9% market share of a \$830 million market in 2002 is about \$74 million in product sales. Add 15% to revenue for services, and we can reach about a \$87 million revenue number for 2002. The "street"

has not yet estimated 2002, but is estimating about \$79 million in revenue in 2001 and EPS of \$0.37 untaxed.

F5 just completed a secondary stock offering. Insiders sold 1.5 million shares, while the company sold 500,000 boosting shares outstanding to about 18.6 million. At today's price of \$68, FFIV shares sell at about a \$1.3 billion market cap, which is 1.5 times the total market size estimate for the year 2002, and 15 times projected 2002 FFIV sales. This price seems rather too high for a not dominant player in a niche market where the technology could be incorporated into other products. We also doubt that any company will pay this price to acquire F5's technology.

Background:

Larger websites typically use from two to a large number of servers to handle internet traffic. A group of servers is referred to as a "server farm". Load balancing, or Internet Traffic Management (ITM) products, direct incoming traffic to the server best able to handle a user's request. Most server farms are geographically in one location, in a Local Area Network (LAN). Some server farms are also geographically dispersed, in a Wide Area Network (WAN). Specific ITM products address the market for both local and geographically dispersed servers. The market for LAN ITM products is much bigger market than for the WAN products because most server farms are local.

ITM products are primarily software applications. These products, however, are offered by various vendors in three types of platforms: switch based devices, appliance devices and software only. The main advantages and disadvantages of each platform is as follows:

A. Switch based devices.

Advantages: 1. Switch based ITM products contain ASICs and RISC processors and support "wire speed" switching rates. These devices are designed to move LAN traffic via high speed gigabit ethernet ports. Switch based devices have much greater processing power and throughput than appliance devices, which typically utilize a Pentium chip for processing. For example, Alteon's web switches process up to 296,000 connections per second. By comparison, the Cisco Local Director, which is an appliance type device, can handle only up to 18,000 connections per second.

2. Since switches that incorporate load balancing are priced about the same as discrete load balancing appliance devices, a load balancing switch saves the customer money.

Disadvantages: 1. Because much of the functionality is hardware (ASIC) based, switch vendors are slower to roll out new versions. Switch vendors are able to roll out new versions about once per year, versus up to 3 to 4 times per year for appliance devices and software only products. 2. Because switches perform

switching and other functions in addition to ITM in one box, they can be more difficult to manage and may make trouble shooting more difficult.

B. Appliance type devices.

An ITM appliance generally contains a Pentium processor, a pared down operating system, and some other features similar to a PC.

Advantages: 1. The appliance is easy to install and is less complex to manage
2. Upgrades are faster to market than switch based devices.

Disadvantages: 1. The appliance platform adds extra cost because the customer has to buy another box as opposed to ITM software integrated into a switch. 2. PC type appliances are more susceptible to hardware failure/crashes than switches 3. The throughput, speed and capacity are much less than a switch based device. 4. Typically, four boxes are required to do both local and global server load balancing. The local and the global server farms each require a load balancer plus a backup for redundancy. The addition of four boxes adds complexity to network management.

C. Software only.

Advantages: 1. The software can be modified and upgraded more quickly and easily than appliances or switches. 2. The platform is meant to scale easily.

Disadvantages: 1. The software is generally more complex to manage because the software is installed on each server in the server farm. 2. The software must be designed to work with each type of operating system of the content servers. 3. Deployment cost is typically higher due to installation and customization issues. 4. Performance is dependent on the hardware platform, operating system etc. 5. Reliability is determined by the reliability of the hardware platform and all co-resident software.

F5 Networks sells three products. BIG/ip is a load balancer for local network servers. Big/IP currently accounts for about 73% of F5's revenues. (Service is about 15% of revenue.) 3DNS is a load balancer for geographically dispersed servers. See/IT is a software package that enables real time monitoring of server traffic.

Discussion:

1. The ITM market has at least thirteen major competitors and additional smaller startups may enter the market soon.

The ITM market is becoming crowded, and no one product clearly stands out as superior to others. Furthermore, each server farm is unique because the type of traffic, amount of traffic and other variables are different for each website.

The most important features most customers look for in an ITM product are:

a. Scalability. b. “High availability”: that is that the ITM product ensures users will have access to the full website functionality as close to 100% of the time as possible
 c. Performance. d. Price. e. Strong security. There are several measures which encompass overall performance including throughput, or maximum Mbps of traffic that the ITM product can handle and speed (packets forwarded per second).

Each product offers different features with regard to performance, security, scalability, price etc. Because each server farm is unique, each competitor appears to attract customers whose specific requirements best match their feature sets. Though Cisco is clearly the market share leader, after Cisco the market is divided among several competitors, and could become further fragmented as newer participants gain share.

Tables 1 and 2 review the main local server load balancing products currently on the market.

Table 1: Appliance devices

	<u>Cisco</u>	<u>Coyote Point</u>	<u>F5</u>	<u>Hydraweb</u>	<u>Ipivot</u>	<u>Radware</u>
Product name	Local Director 430	Equalizer E350	Big/IP High Avail.	Hydra 5000	Intellig. Broker 4000, 7000	Web Server director Pro
First product ship date	1996	Jan-98	Jul-97	Sep-96	May-98	early 1997
OEM reseller					Nortel	
Investors	public	Private	IPO 6/99	Ascend others	Doll Capital Crosspoint IPO planned Mar-00	RAD Group
List price	\$25,000	\$20,000	\$25,000	\$25,000	\$15,000 - \$25,000	\$25,000
Sample Customers	<u>Cisco</u>	<u>Coyote Point</u>	<u>F5</u>	<u>Hydraweb</u>	<u>Ipivot</u>	<u>Radware</u>
		exchange.com ValueClick Netcentives Be Free, Freemerchant	motley fool big charts etoys Egghead.com Healtheon Sallie mae Soma.com alaska airlines bcbs of nc	DLJ Direct Bear Stearns Morgan Stanley Merill Lynch Reuters	1800flowers Hewitt & assoc.	Concentric Verio USPS Lockheed Martin Onsale.com Paranet Sprint

Table 2: Switch based and software only (IBM and Resonate are software only)

	<u>Alteon</u>	<u>Arrowpoint</u>	<u>Foundry</u>	<u>HolonTech</u>	<u>IBM</u>	<u>Resonate</u>
Product name:	ACEdirector 2 switch	IPWorX	ServerIron	Hyperflow 2	Websphere Performance Pack	Central Dispatch
First product Ship date	Feb-98	Apr-98	May-97	+Sep-98	Aug-98	Dec-96
OEM reseller		Lucent				
Funding	IPO 9/99	Matrix Partners Acces Partners Pequot Capital Others	IPO 9/99 Deutsche Bank Alex Brown	NEC Corp	public	Kleiner Perkins Intel Chase Capital
List price	\$22,000	(1)	(1)	\$30,000	\$15,000	(2)
Sample Customers	Compaq DLJ Direct Concentric IBM Sun Micro HP NEC WebTV Uunet Yahoo	Road Runner UUnet NaviSite Netscape Global One	HWP Mindspring Uunet AT&T WorldNet Netscape Global One	drkoop.com ARC Systems myevents. Stockpoint	Comdata First Union B Cyberdesic Macys.com	Geocities Bankboston Etrade Excite Ebay Discover Brokerage macromedia

(1) Depends on configuration. Foundry customers are not necessarily customers for its ironware load balancing software.

(1) Depends on number of servers in web farm. Approximately \$5,500 per server.

Note: List prices are for fully redundant versions.

2. Six of the above companies sell appliance type devices, four sell switch based devices and two sell software only devices. Cisco's Local Director has 50% of the top 100 websites, according to Cisco, and over 50% of the total ITM market, according to at least one "street" analyst.

Cisco is also F5's closest competitor in terms of functionality. F5 says it goes up against Cisco in about 60% of its sales calls. Cisco released version 3.1 of its software in July, 1999. While F5 has been said to have a "better version of the Local Director", this software upgrade appears to close the gap in some important areas where Cisco was behind.

Cisco's customer relationships, and its size and ability to provide end to end solutions obviously give it a competitive advantage versus F5. F5's advantage is that it is focused exclusively on ITM products.

Cisco's strength has traditionally been in the enterprise market and that is expected to continue. This should work to Cisco's advantage because the enterprise market is expected to grow faster than all other market segments.

3. The key feature upgrades of Cisco's version 3.1 are:

a) V3.1 handles "SSL sticky" traffic. This refers to the ability to identify unique individuals based on the unique session ID, and ensures that complex secure transactions can be completed. The Big/IP has this functionality but it had been lacking in the Cisco product.

b) The V3.1 offers "content verification", which also had been an advantage for the Big/IP. In this area the new version is further along than all other competitors, according to the company. This feature allows, for example, the ITM to verify each step of an e-commerce site (i.e. credit card verification, shopping basket etc) and if any part of the process is down, the load balancer will redirect traffic to an alternate server.

Several other features were also added. We think pricing is similar for the two products, but that F5 throws in maintenance and support for one year at no extra charge.

4. Cisco may expand its presence further by introducing a switch or router based device, or otherwise integrating ITM functionality into the network. Further integration of ITM functionality into Cisco network equipment would be a next logical step for Cisco, according to industry observers.

In fact, industry sources believe that Cisco plans to announce a new product offering shortly. One possibility is that Cisco will come out with a new platform, called the Network Director. This platform would apparently have software agents installed on the customer's servers and have part of the ITM functionality built into the Cisco Routers. If true, it is possible that Cisco would offer ITM integrated with its routers, and may in effect "give away" the ITM product in order to help make the sale of the more expensive routers.

5. In another indication that Cisco intends to expand its presence in the ITM market, the company announced on August 18 a \$49 million investment (4%) and a joint development agreement with Akamai Technologies, Inc. Apple had previously invested \$12.5 million for 5% of Akamai. Akamai (www.akamai.com) has developed a novel internet content delivery technology that is highly regarded by those in the ITM marketplace. Basically, Akamai routes a customers most bandwidth intensive web content to Akamai's own network, improving customers' website performance by a factor of two to ten times, according to the company's S-1 filing. The technology does not replace load balancing products but improves on their performance.

Akamai's customers include Yahoo, Apple, GO network and CNN. According to the August 18 press release, Cisco and Akamai will jointly develop content based routing and switching technologies and Cisco will integrate Akamai's unique content delivery technology into its networking technology. Furthermore, the companies will investigate new technologies to enable next generation switches that will dynamically adapt to changing network conditions.

6. All companies claim that the features their product offers are the most important. Speed and other performance measures vary with each website application, so comparing technical specifications of different vendors is difficult. Furthermore, many customers seem to purchase an ITM product based on reasons other than specific technical features. For example, some buy Cisco because they trust the brand or want an "end to end" solution. Others buy something because a colleague recommended it. Many companies today are not using some of the advanced technical capabilities of the products, according to industry sources. Nor do virtually any utilize the full throughput of these devices, though they may in the future.

Nevertheless, while Cisco represents the biggest threat to F5, all of the companies reviewed in Table 1 appear to have very competitive products. For example, Radware's local server load balancing product, the Web Server Director Pro, provides advanced switching functions that are not found in the F5 product. Radware also has customized products for firewall (Radware Fireproof) and cache server (Cache Server Director) load balancing.. While most all ITM companies say their product can do firewall load balancing, the Radware Fireproof was specifically designed for this purpose. Radware and Alteon are the only two ITM companies whose products are certified compatible with Open Platform for Security by Checkpoint Systems, guaranteeing interoperability with Checkpoint's firewall product (see www.opsec.com).

Radware also has a strong endorsement by Oracle. It is the only ITM company that is an Oracle Partner. Oracle is apparently recommending Radware products to its customers for their load balancing needs.

Ipivot is another example of a competitive product. The Intelligent Broker 7000, which will shortly also be OEM'd by Nortel under the Accelar name, provides layer 7 functionality, which enables the software to look at the URL of the end user before deciding which server can best handle the request.

Ipivot also sells an "SSL Accelerator" product. Because of the encryption/decryption process, SSL traffic requires far greater processing power than non-encrypted IP traffic. SSL traffic can therefore slow content servers down considerably. The Commerce Accelerator 1000 offloads SSL processing requirements from the content servers, dramatically improving response times for SSL traffic. The Commerce Director 8000 combines the functionality of the IB7000 and the CD 8000. Ipivot is the only ITM company we are aware of that currently offers an SSL acceleration product.

7. Lucent and Nortel announced their strategies in April 1999. Lucent will be reselling the Arrowpoint switches. These are high end switches with integrated load balancing functionality and a price that ranges from \$18,000 to \$140,000. It makes sense that Lucent would sell higher end ITM products, in conjunction with its networking solutions, which are typically for high capacity sophisticated networks. As discussed above, Nortel will be reselling Ipivot products.

Because of their size and influence, Lucent and Nortel are sure to gain market share in the ITM space. Cabletron is reselling F5's software in one of its own switches but due to its more limited customer base, it will should not gain the market share of Lucent or Nortel.

8. Thus, while ITM is expected to be a fast growing market, the market will likely be dominated by Cisco, Lucent, Nortel and IBM. Given that Cisco has about 50% of the market currently, it seems logical that Cisco, Lucent, Nortel and IBM combined will end up with at least 60% of the ITM market within three years, and probably more. These companies are able to sell ITM products as part of a complete internet, intranet or e-commerce solution. They also have the ability to buy smaller companies that may have better technology.

While F5 is enjoying its early product launch and relatively strong feature set today, the market will become much more competitive for the smaller independents, like F5, as Cisco, Lucent and Nortel develop and strengthen their competitive offerings.

9. We think that F5 has a good product, as do other competitors. F5 also has a very strong sales/marketing organization, according to those in the industry. Given its small revenue base, the high growth rate expected for ITM products in the next couple years, and F5s early lead on some competitors, the Q499 and F2000 "street" revenue estimates appear to have been set low so that F5 will be able to "beat" estimates. One firm raised its revenue and earnings estimates for F5 recently, and introduced F2001 estimates. We think these revenue estimates are more accurate though still a little light for Q499 and F2000. However, FFIV will be expected to beat estimates, and estimates will likely be raised after the company reports Q499 results.

Lucent, Nortel, Cisco and others will be stronger competitors within a year and are likely to gain share (particularly with Lucent and Nortel starting from zero and other competitors just ramping up). Therefore, we doubt F5 will be able to grow its market share after F2000. The market for discrete load balancing products will not grow fast enough to support F5's valuation. We think F5's revenue growth rate will slow from 96% in F2000 to 21% in F2001 and to 20% in 2002 (see Table 3) versus the high "street" estimate of 110% in F2000 and 55% in F2001 (There are no "street" estimates for F2002 yet). As a result, F5 will be unable to grow into its current valuation.

10. On August 30, 1999, F5 and Extreme Networks announced that Extreme will integrate F5's Big/ip layer 4 load balancing source code into Extreme Network's

switching solutions. While this might appear to be a great source of revenue and profits for F5, the potential of the agreement appears to be limited.

F5 licensed its layer 4 source code to Extreme, and intends to recognize the license fee revenue to income over the next six quarters. Industry sources say that the F5 source code will only be integrated with the Summit 7 switch. This switch is specifically aimed at the market for server farms and data centers, and is scheduled to start shipping in Q499. Moreover, our sources say that the software will only be included in an “enhanced version” of the Summit 7 switch, which will also include other additional software. The list price for the basic Summit 7 switch will begin at \$20,000 and the “enhanced version” will apparently sell for \$2,000 to \$4,000 more.

The other significant aspect seems to be that only layer 4 load balancing source code will be integrated, and not layer 7 load balancing. Layer 4 functionality allows the software to look at and route traffic based on the first packet that arrives. This can lead to a user getting error messages if the server is functioning but part of the server based application program is not. Layer 7 functionality has the ability to look at the URL of the end user as well as at the application requested. Traffic can then be routed based on the specific user request. Also, different types of traffic can be prioritized. Therefore, layer 7 load balancing enables traffic to be routed more efficiently and to bypass any server that has website pages or processes not working properly, which otherwise could result in error messages to the user. Because the Summit 7 switch will integrate only up to layer 4 source code, it is intended for the low end of the market, a market segment from which F5 currently derives less than 2% of revenues.

Assuming the Summit 7 switch represents 10% of total Extreme revenues by 2000, 40% of customers purchase the “enhanced version” and the license fee equates to \$1,500 per switch sold, F5 would recognize only \$335,000 of license revenue in 2000, or about one-half of one percent of revenues. The license revenue will be far lower than the sale of Big/IP devices, which average about \$25,000 per redundant unit.

Extreme will also become a reseller of F5 products. However, F5 already has 45 resellers including Exodus, Frontier Global Center and PSINet so we don't view the addition of one additional reseller as a material development. Exodus Communications is F5's largest customer and accounted for 20% of revenues in the quarter ended June 30. Exodus, however, does not resell F5's ITM products exclusively, nor does it generally recommend the product, according to the company. Exodus' customers tell it which product they want to use.

11. F5 plans to introduce a new product called Global/SITE. This product would allow synchronization of data delivery across all servers in local or geographically dispersed sites. Global/SITE was originally scheduled for release in July or August but now has been pushed back to October, 1999. Revenue from Global/SITE is included in “other product revenue” in our financial projections.

Webspective Corporation appears to be the clear market leader in the website synchronization and content replication market. The company has alliances with Cisco and Arrowpoint and is recommended by Ipivot, Coyote Point and others. Webspective had been private but will be acquired by Inktomi in a deal announced on September 16.

12. Phobos Corporation makes a new product called the IN-Switch, which is currently in beta testing with six end users. This is a PCI card that can be installed in any host server in the server farm, and offers the same load balancing functionality of more expensive switch and appliance type devices, according to company literature. The card will sell for only \$2,000 and will ship by the end of October, according to the company. Phobos is also planning to sell a global load balancer, a SSL acceleration product and an ITM traffic management system at similarly low prices with product ship dates announced (see www.phobos.com for more information). The global load balancer would address the same market as F5's 3DNS product (WAN load balancing) and the ITM traffic management systems would address the same market as the See/IT product.

If this PCI card platform works as advertised, Phobos or other entrants could take the low end of the ITM market and put significant margin pressure on F5 and others.

13. Many industry observers expect appliance type devices (the type that F5 makes), to lose market share to switch based devices over time. If this occurs, the total market size for F5 products will shrink, and could, in the worst case, virtually disappear, although we have not assumed this eventuality.

Acuitive, Inc., which is a consulting firm specializing in ITM products as well as other emerging technologies, predicts that switch based ITM products will increase from 15% of the market currently to 40% in four years. This is partly because the overall cost of a switch based solution is lower, since no extra boxes are required in the network. Switches incorporating load balancing functionality sell for about the same price as appliance devices, so the customer effectively gets the switch for free when compared to purchasing an appliance load balancer and a separate switch. Appliances are projected to go from 65% to 20% of the market, with "free" embedded software (i.e. load balancing software included in Windows NT, for example), going from 10% to 30% of the market.

A second reason why switch based solutions should gain share is throughput (capacity). While F5 says its Big/IP can achieve 400mb throughput, one network engineer for a large web hosting company told us that it maxes out at 70-80mb in real world conditions. Lack of scalability therefore becomes an issue for larger websites. As web traffic becomes more bandwidth intensive (with more video etc.), one might think that F5's business should benefit. However, we think that this will only hasten the trend towards switch based load balancers because the appliances will not provide the throughput required for these bandwidth intensive applications.

One of the factors that will determine how fast appliance devices lose market share is the rate of future innovation in ITM products. To the extent that ITM products continue to add new features that customers want at a rapid pace, the trend will be slower maintain because new software features can be added at a faster rate than in switch based devices.

However, to the extent that load balancing software is a mature product in terms of functionality (i.e. if the products are already doing 80% of what people want), it will be integrated into switches much faster because it is more economical and offers greater throughput.

The trend is already clear. Recent IPO stars Alteon and Foundry include load balancing features in their switches. Cisco is expected to follow. The market and the technology is developing at a rate which appears to be far faster than expected only a year ago. We do not think that this favors small manufacturers of discrete products, such as F5. Indeed, we are surprised that the market has not seemed to notice the extent to which load balancing functionality is being incorporated into switch based products.

14. The market for “discrete” ITM products is estimated by Collaborative Research to grow from \$132 million in 1998 to just over \$800 million in 2002. Much of this growth is expected to come from the Enterprise market, where ITM products are used in corporate intranets. Collaborative Research is recognized by industry participants to have done the most extensive market analysis and projection for ITM products.

New types of ITM products, such as those offered by Akamai, are included in this estimate in addition to traditional load balancing products. The firm did not attempt to break down the forecast between new ITM products and traditional, because it does not know how the market will develop and what type of new products may arise in time. The forecast as we understand it was developed based primarily on internet and website growth.

15. We have used the Collaborative Research market size estimates for F1998 and F2002 as a baseline. These estimates assume 527% growth from 1998 to 2002, and appear a little aggressive but reasonable. We have also made (conservative) assumptions about the integrated suppliers’ market share, and other information to arrive at 2001 and 2002 revenue estimates, as explained below.

16. Collaborative Research also did a market share estimate of load balancing products at the end of 1998. We think that the top four estimated market shares for 1998 were 44% for Cisco, 14% for Radware and Alteon, and 9% for F5.

F5 could increase its market share to about 11% in F2000 due to much higher spending for sales and marketing, a higher profile as a public company, and natural growth off a very small revenue base of about \$25 million in F1999 (The Big/ip was released in July, 1997). We estimate that F5’s market share will gradually decrease from its high point, however, to 9% by 2002 as Cisco strengthens its

product line, Lucent and Nortel enter the market and gain share, and newer competitors such as Arrowpoint and Ipivot gain share.

Given these market share estimates, F5 would have an estimated 22% of the “independent” market over the next three years. We also project that F5 will , leverage operating expenses from 102% in F1999 to 73% in F2000 and 65% in F2001. F5 would then earn \$0.05 in F2000 (\$0.03 fully taxed) and \$0.22 in F2001 (\$0.13 fully taxed).

Clearly though, F5 is not being valued on F2000 or F2001 earnings expectations. At over 20 times estimated year 2000 revenues, bulls are expecting rapid revenue and earnings growth in 2001 and going forward.

17. F5 is currently selling over 310 times F2001 fully taxed “street” EPS estimates. Its valuation does not reflect the fact that is a small player in a highly competitive and segmented market that will likely be dominated by large networking companies. As a comparison, Checkpoint Software sells firewall and VPN software into the internet, intranet and e-commerce space. Checkpoint faces substantially less competition than F5 and has gross margins of 90% and net margins of 52% before taxes. Checkpoint’s historical PE has ranged from 10 to 60.

F5 has a stated goal of 20%-25% operating income, or about 13% to 16% net income, comparable to Cisco. This will be very hard to achieve.

18. We project \$0.29 EPS in 2002. FFIV is a high risk situation. The company competes in a market that is likely to be dominated by Cisco, with significant competition also coming from Lucent and Nortel, and from many other small players. Its product offering could become obsolete as a discrete product. Our target price is \$20.

Table 3: Market size, share, revenue and earnings estimates
(in millions except EPS)

FYE Sept.	<u>1998</u>	<u>1999e</u>	<u>2000e</u>	<u>F2001e</u>	<u>F2002e</u>
Enterprise	62				407
E-commerce	23				294
ISP	39				90
Other	8				37
Worldwide market size projection - Total per Collaborative Research	132	265	450	650	828
market growth %	n/a	101%	70%	44%	27%
Est mkt share % cisco, lucent, IBM, nortel	50%	45%	52%	58%	63%
Est mkt share \$ cisco, lucent, IBM, nortel	66	119	234	377	522
mkt share left for independents	66	146	216	273	306
F5 market share of independent market	8%	17%	23%	23%	23%
F5 market share of total market (calc'd)	6.0%	9.6%	11.0%	9.5%	8.6%
ITM revenue projection	5	25.3	50	62	71
Total revenue projection	5	25	62	79	94
revenue growth	n/a	404%	146%	27%	18%
Projected EPS before tax	-0.32	-0.45	0.05	0.22	0.30
Projected fully taxed EPS	0	-0.45	0.03	0.13	0.21
Forward PE on fully taxed EPS	n/a	n/a	2335	510	324
High street rev projection	5	24.3	51	79	n/a
y/y rev growth on street estimates	n/a	386%	110%	55%	n/a
High street EPS projection	-0.32	-0.47	-0.04	0.37	n/a
Price to sales	n/a	n/a	20	16	13

(1) street projection represents total revenue, including service revenue.

Note: F5 Revenue and earnings projections are for the fiscal years ending September.

19. Projections:

	Q198A	Q298A	Q398A	Q498A
	12/97	3/98	6/98	9/98
Net revenues:				
ITM products	742	866	929	1,582
Other products	0	0	0	0
Services	<u>100</u>	<u>129</u>	<u>215</u>	<u>326</u>
Total revenue	842	995	1,144	1,908
Cost of products	201	202	291	397
Cost of services	9	47	115	143
Cost of revenues	210	249	406	540
Gross profit	632	746	738	1,368
Sales and marketing	555	787	1,097	1,442
Res & Dev	194	340	525	751
Gen and Admin	202	236	252	351
Amort of unearned comp	<u>31</u>	<u>60</u>	<u>114</u>	<u>215</u>
Total operating expenses	982	1,423	1,988	2,759
Operating income (loss)	(350)	(677)	(1,250)	(1,391)
Interest income (expense)	(23)	4	(2)	17
Net income (loss) b4 tax	(373)	(673)	(1,252)	(1,374)
Income tax	0	0	0	0
Net income after tax	(373)	(673)	(1,252)	(1,374)
shares o/s	n/a	n/a	n/a	n/a
net income (loss) per share	n/a	n/a	n/a	n/a
fully taxed n/i per share	n/a	n/a	n/a	n/a
seq rev gr	n/a	18%	15%	67%
y/y rev growth	n/a	n/a	n/a	n/a
as % of revenue:				
Total revenue	100.0%	100.0%	100.0%	100.0%
Product cost/prod rev	27.1%	23.3%	31.3%	25.1%
Service cost/serv rev	9.0%	36.4%	53.5%	43.9%
Cost of revenues	24.9%	25.0%	35.5%	28.3%
Gross profit	75.1%	75.0%	64.5%	71.7%
Sales and marketing	65.9%	79.1%	95.9%	75.6%
Res & Dev	23.0%	34.2%	45.9%	39.4%
Gen and Admin	24.0%	23.7%	22.0%	18.4%
Amort of unearned comp	3.7%	6.0%	10.0%	11.3%
Total operating expenses	116.6%	143.0%	173.8%	144.6%
	Q199A	Q299A	Q399A	Q499E
	12/98	3/99	6/99	9/99
Net revenues:				
ITM products	2,282	3,146	6,444	9,666
Other products	0	0	0	0
Services	<u>413</u>	<u>616</u>	<u>1,161</u>	<u>1,490</u>
Total revenue	2,695	3,762	7,605	11,156
Cost of products	624	825	1,636	2,417
Cost of services	196	384	396	551
Cost of revenues	820	1,209	2,032	2,968
Gross profit	1,875	2,553	5,573	8,188
Sales and marketing	2,216	2,887	4,010	5,132
Res & Dev	1,020	1,324	1,466	1,785
Gen and Admin	525	666	954	1,339
Amort of unearned comp	<u>368</u>	<u>670</u>	<u>759</u>	<u>675</u>
Total operating expenses	4,129	5,547	7,189	8,930
Operating income (loss)	(2,254)	(2,994)	(1,616)	(742)
Interest income (expense)	58	31	97	291
Net income (loss) b4 tax	(2,196)	(2,963)	(1,519)	(451)
Income tax	0	0	0	0
Net income after tax	(2,196)	(2,963)	(1,519)	(451)
shares o/s	n/a	n/a	15,945	18,700
net income (loss) per share	n/a	n/a	(0.10)	(0.02)
fully taxed n/i per share	n/a	n/a	(0.10)	(0.02)

	Q199A 12/98	Q299A 3/99	Q399A 6/99	Q499E 9/99
seq rev gr	41%	40%	102%	47%
y/y rev growth	220%	278%	565%	485%
as % of revenue:				
Total revenue	100.0%	100.0%	100.0%	100.0%
Product cost/prod rev	27.3%	26.2%	25.4%	25.0%
Service cost/serv rev	47.5%	62.3%	34.1%	37.0%
Cost of revenues	30.4%	32.1%	26.7%	26.6%
Gross profit	69.6%	67.9%	73.3%	73.4%
Sales and marketing	82.2%	76.7%	52.7%	46.0%
Res & Dev	37.8%	35.2%	19.3%	16.0%
Gen and Admin	19.5%	17.7%	12.5%	12.0%
Amort of unearned comp	13.7%	17.8%	10.0%	7.5%
Total operating expenses	153.2%	147.4%	94.5%	80.1%

	Q100E 12/99	Q200E 3/00	Q300E 6/00	Q400E 9/00
Net revenues:				
ITM products	11,019	12,231	13,088	13,742
Other products	500	750	1,000	1,250
Services	<u>1,717</u>	<u>1,974</u>	<u>2,239</u>	<u>2,502</u>
Total revenue	13,237	14,955	16,327	17,494
Cost of products	2,995	3,505	3,945	4,348
Cost of services	653	751	882	1,004
Cost of revenues	3,648	4,256	4,826	5,351
Gross profit	9,588	10,699	11,500	12,143
Sales and marketing	5,824	6,431	6,857	6,998
Res & Dev	2,383	2,692	2,939	3,149
Gen and Admin	1,522	1,645	1,714	1,784
Amort of unearned comp	<u>525</u>	<u>480</u>	<u>420</u>	<u>375</u>
Total operating expenses	10,254	11,248	11,930	12,306
Operating income (loss)	(666)	(548)	(430)	(163)
Interest income (expense)	750	700	650	650
Net income (loss) b4 tax	84	152	220	487
Income tax	0	0	0	0
Net income after tax	84	152	220	487
shares o/s	19,011	19,211	19,411	19,611
net income (loss) per share	0.00	0.01	0.01	0.02
fully taxed n/i per share	0.00	0.00	0.01	0.01

seq rev gr	19%	13%	9%	7%
y/y rev growth	391%	298%	115%	57%
as % of revenue:				
Total revenue	100.0%	100.0%	100.0%	100.0%
Product cost/prod rev	26.0%	27.0%	28.0%	29.0%
Service cost/serv rev	38.0%	38.0%	39.4%	40.1%
Cost of revenues	27.6%	28.5%	29.6%	30.6%
Gross profit	72.4%	71.5%	70.4%	69.4%
Sales and marketing	44.0%	43.0%	42.0%	40.0%
Res & Dev	18.0%	18.0%	18.0%	18.0%
Gen and Admin	11.5%	11.0%	10.5%	10.2%
Amort of unearned comp	5.4%	4.4%	3.5%	2.8%
Total operating expenses	77.5%	75.2%	73.1%	70.3%

	Q101E	Q201E	Q301E	Q401E
	12/00	3/01	6/01	9/01
Net revenues:				
ITM products	14,179	14,888	15,632	16,414
Other products	1,500	1,600	1,725	1,850
Services	2,690	2,799	2,894	3,000
Total revenue	18,369	19,287	20,252	21,264
Cost of products	4,683	5,024	5,496	5,893
Cost of services	1,103	1,148	1,187	1,230
Cost of revenues	5,786	6,172	6,683	7,124
Gross profit	12,583	13,115	13,569	14,141
Sales and marketing	6,888	7,040	7,088	7,230
Res & Dev	3,306	3,472	3,645	3,828
Gen and Admin	1,837	1,871	1,904	1,956
Amort of unearned comp	<u>239</u>	<u>251</u>	<u>263</u>	<u>276</u>
Total operating expenses	12,270	12,633	12,900	13,290
Operating income (loss)	312	482	668	851
Interest income (expense)	600	600	600	600
Net income (loss) b4 tax	912	1,082	1,268	1,451
Income tax	0	0	0	0
Net income after tax	912	1,082	1,268	1,451
shares o/s	20,300	20,500	20,700	20,900
net income (loss) per share	0.04	0.05	0.06	0.07
fully taxed n/i per share	0.03	0.03	0.04	0.04
seq rev gr	5%	5%	5%	5%
y/y rev growth	39%	29%	24%	22%
as % of revenue:				
Total revenue	100.0%	100.0%	100.0%	100.0%
Product cost/prod rev	29.9%	30.5%	31.7%	32.3%
Service cost/serv rev	41.0%	41.0%	41.0%	41.0%
Cost of revenues	31.5%	32.0%	33.0%	33.5%
Gross profit	68.5%	68.0%	67.0%	66.5%
Sales and marketing	37.5%	36.5%	35.0%	34.0%
Res & Dev	18.0%	18.0%	18.0%	18.0%
Gen and Admin	10.0%	9.7%	9.4%	9.2%
Amort of unearned comp	1.3%	1.3%	1.3%	1.3%
Total operating expenses	66.8%	65.5%	63.7%	62.5%
Operating income	1.7%	2.5%	3.3%	4.0%
Net income	5.0%	5.6%	6.3%	6.8%
Net revenues:	1999E	2000E	2001E	2002E
ITM products	21,538	50,080	60,282	67,000
Other products	0	3,500	6,675	7,500
Services	<u>3,680</u>	<u>8,433</u>	<u>12,215</u>	<u>15,000</u>
Total revenue	25,218	62,013	79,172	89,500
Cost of revenues	<u>7,029</u>	<u>18,082</u>	<u>25,765</u>	<u>30,878</u>
Gross profit	18,189	43,931	53,407	58,623
Sales and marketing	14,245	26,110	28,246	29,535
Res & Dev	5,595	11,162	14,251	15,215
Gen and Admin	3,484	6,666	7,568	8,055
Amort of unearned comp	<u>2,472</u>	<u>1,800</u>	<u>1,029</u>	<u>0</u>
Total operating expenses	25,795	45,738	51,094	52,805
Operating income (loss)	-7,606	-1,807	2,313	5,818
Interest income (expense)	477	<u>2,750</u>	<u>2,200</u>	<u>1,500</u>
Net income (loss) b4 tax	-7,129	943	4,513	7,318
Income tax	0	0	0	869
Net income after tax	(7,129)	943	4,513	6,449
shares o/s	15,760	19,311	20,400	22,000
net income (loss) per share	(0.45)	0.05	0.22	0.29
fully taxed n/i per share	(0.45)	0.03	0.13	0.20

	1999E	2000E	2001E	2002E
y/y rev gr	512%	146%	28%	13%
as % of revenue:				
Total revenue	100.0%	100.0%	100.0%	100.0%
Cost of revenues	27.9%	29.2%	32.5%	34.5%
Gross profit	72.1%	70.8%	67.5%	65.5%
Sales and marketing	56.5%	42.1%	35.7%	33.0%
Gen and Admin	13.8%	10.7%	9.6%	9.0%
Amort of unearned comp	9.8%	2.9%	1.3%	0.0%
Total operating expenses	102.3%	73.8%	64.5%	59.0%
Operating income	n/a	n/a	2.9%	6.5%
Net income	n/a	1.5%	5.7%	7.2%