

## F5 Networks, Inc.(FFIV)

**\$164.84** (As of 11/24/20)

Price Target (6-12 Months): **\$173.00**

Long Term: 6-12 Months

**Zacks Recommendation:**

**Neutral**

(Since: 02/27/20)

Prior Recommendation: Underperform

Short Term: 1-3 Months

**Zacks Rank:** (1-5)

**3-Hold**

Zacks Style Scores:

VGM:C

Value: C

Growth: D

Momentum: A

## Summary

F5 Networks is gaining traction from strong software growth, backed by a solid uptick in public cloud and security offerings. Also, the company is benefiting from growing demand for consistent application security across multi-cloud environments, which is aiding revenue growth. Acceleration in NGINX, ELA and Virtual Edition subscription software deals is a positive. The BIG-IP Cloud Edition is also expected to be a key growth driver. The company is incorporating more automation and orchestration on its platforms to enable quicker application provisioning. Nonetheless, although the recent buyout of NGINX improves the company's position within the DevOps ecosystem and helps boost its long-term revenues, the near-term pressure on the margins and earnings is a concern. Shares of the company have underperformed the industry over the past year.

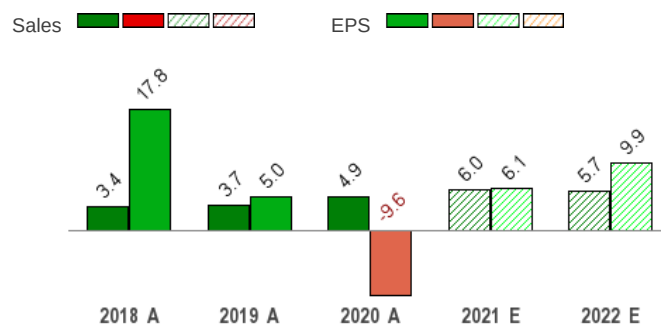
## Price, Consensus & Surprise



## Data Overview

|                                |                                    |
|--------------------------------|------------------------------------|
| 52-Week High-Low               | <b>\$167.00 - \$79.78</b>          |
| 20-Day Average Volume (Shares) | <b>956,414</b>                     |
| Market Cap                     | <b>\$10.2 B</b>                    |
| Year-To-Date Price Change      | <b>18.0%</b>                       |
| Beta                           | <b>1.03</b>                        |
| Dividend / Dividend Yield      | <b>\$0.00 / 0.0%</b>               |
| Industry                       | <b>Internet - Software</b>         |
| Zacks Industry Rank            | <b>Bottom 27% (186 out of 254)</b> |

## Sales and EPS Growth Rates (Y/Y %)



|                               |                   |
|-------------------------------|-------------------|
| Last EPS Surprise             | <b>2.1%</b>       |
| Last Sales Surprise           | <b>1.3%</b>       |
| EPS F1 Estimate 4-Week Change | <b>1.3%</b>       |
| Expected Report Date          | <b>01/25/2021</b> |
| Earnings ESP                  | <b>0.0%</b>       |
| P/E TTM                       | <b>17.6</b>       |
| P/E F1                        | <b>16.6</b>       |
| PEG F1                        | <b>1.8</b>        |
| P/S TTM                       | <b>4.3</b>        |

## Sales Estimates (millions of \$)

|      | Q1    | Q2    | Q3    | Q4    | Annual* |
|------|-------|-------|-------|-------|---------|
| 2022 | 633 E | 645 E | 656 E | 687 E | 2,632 E |
| 2021 | 604 E | 615 E | 622 E | 650 E | 2,491 E |
| 2020 | 569 A | 583 A | 583 A | 615 A | 2,351 A |

## EPS Estimates

|      | Q1       | Q2       | Q3       | Q4       | Annual*   |
|------|----------|----------|----------|----------|-----------|
| 2022 | \$2.57 E | \$2.62 E | \$2.70 E | \$2.98 E | \$10.92 E |
| 2021 | \$2.34 E | \$2.38 E | \$2.49 E | \$2.74 E | \$9.94 E  |
| 2020 | \$2.55 A | \$2.23 A | \$2.18 A | \$2.43 A | \$9.37 A  |

\*Quarterly figures may not add up to annual.

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 11/24/2020. The reports text is as of 11/25/2020.

## Overview

Seattle, WA-based F5 Networks Inc, founded in 1996, provides products and services to manage Internet traffic worldwide. Its application, delivery and networking products improve performance, availability and security of applications running on networks that use the Internet Protocol (IP).

The company offers BIG-IP products to manage the IP traffic between network servers, clients and other devices. The company's FirePass systems provide SSL VPN access to remote IP network users and any applications connected to those networks from any standard web browser on any device.

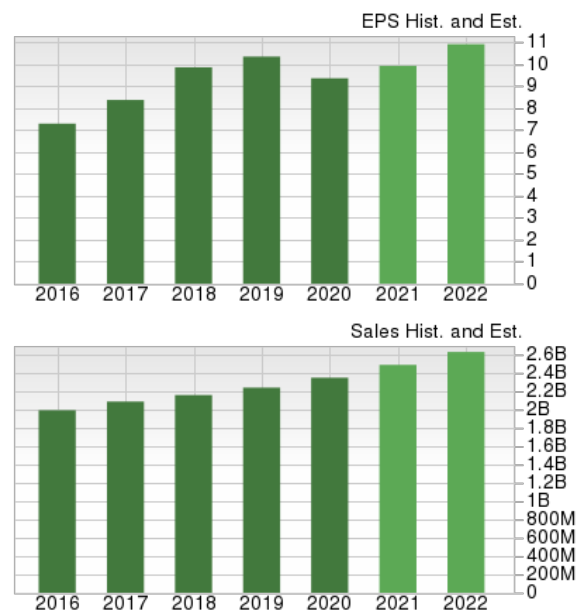
F5 Networks also offers TrafficShield, a web application firewall that provides an application-layer protection against generalized and targeted attacks. The company's WANJet devices helps to combine wide area network optimization and traffic shaping in a single device to accelerate file transfers, email, data replication and other applications over the IP networks. WebAccelerator speeds up web transactions, enhances web application performance from any location, speeds up interactive performance and improves download time.

F5 Networks serves a wide variety of enterprises and service providers among Fortune 1000 and Business Week Global 1000 companies, which includes telecommunications, financial services, technology, manufacturing and transportation enterprise customers as well as the government.

In fiscal 2020, the company reported revenues of \$2.35 billion, which increased 5% from the fiscal 2019-level. Product revenues made up 44% of fiscal 2020 total revenues (\$1.03 billion) and Services revenues accounted for the remaining 56% of total revenues (\$1.32 billion).

The company's distributors Ingram Micro, Tech Data and Westcon accounted for 18.2%, 10.2% and 10%, respectively, of fiscal 2019 total revenues.

F5 Networks has three geographic segments. In fiscal 2020, the Americas generated 58% of revenues; EMEA, 24% and Asia-Pacific, 18%.



Source: Zacks Investment Research

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## Reasons To Buy:

- ▲ F5 Networks is uniquely positioned to benefit from the growth prospects of the application networking market as enterprises cope with rapidly increasing capacity and security demands of next-generation applications and architectures. The company enjoys a strong market position in the Layer 4-7 content switching market. While its competitors are outlining application networking strategies, we believe that F5 Networks will likely maintain and grow its market share due to its lucrative position in the data center space while maintaining proximity with data applications. We believe that F5 Networks will get wide coverage for its products with its new release. Management is also positive regarding F5 Networks' increasing push into the security market as it expects this to help increase its addressable market and revenue growth prospects. Moreover, a new product cycle and better execution will increase revenues and can strengthen its market leadership in the future.
- ▲ F5 Networks holds a major position in the application delivery controller (ADC) market as its products are important components for data center consolidation, virtualization and cloud services. Also, Cisco's decision to shift its focus from the core ADC market has helped F5 capture considerable market share. F5 Networks is the leading developer and provider of software defined application services (SDAS) to ensure that applications delivered over the Internet Protocol (IP) networks are secure, fast and available to any user anywhere, anytime on any device.
- ▲ F5 Networks has resorted to acquisitions to boost its network security capabilities and tap the solid growth prospects in the market. The buyouts have helped the company enhance security capabilities, increasing the market share. Currently, though the security solutions available in the market have elevated the security level, the administrative expenses have also risen exponentially. This has led to a need for an integrated security solution platform that provides constant detection, prevention and remediation of security threats without elevating administrative costs. The acquisitions have enabled F5 Networks to provide its customers with secured access to data and applications, which in turn, will create a protected business environment. As the Internet security market is evolving rapidly, we believe, these deals are an important strategic move by the company.
- ▲ F5 Networks has entered into a number of partnerships or strategic alliances, striking deals with companies like Microsoft, Oracle, VMware, Cisco Systems, and HP to provide integrated application services for their Software Defined Networking (SDN) offerings. Further, the company also partnered with Amazon AWS, Microsoft Azure, VMware vCloud Air, Cisco ACI and many others to provide cloud-based application services and solutions. The company had also entered into a partnership with FireEye, a company which provides security platforms to protect against cyber-attacks to corporations and government agencies. These alliances have increased access to new technology, helped innovative product development, beef up F5 networks' cyber security suite, facilitated joint sales and marketing programs and improve its competitive dynamics.
- ▲ F5 Networks has a strong balance sheet with ample liquidity position and less debt obligations. Historically, the company had no long-term debts in its books. However, in January 2020, utilizes its term credit facility and therefore, as of Sep 30, 2020, the company had long-term debt of approximately \$369 million. Nonetheless, the company's cash and short-term investment of approximately \$1.21 billion at the end of fiscal 2020 depicts that it has ample liquidity to serve its debts. Also, its total debt to total capital ratio of 0.27 is lower than the industry average of 0.34.
- ▲ F5 Networks generates strong cash flows which provide it with ample liquidity to service its debts and fund future investments. The company generated \$661 million in operating cash flow in fiscal 2020.
- ▲ F5 Networks' financial strength enables it to continue with the share buyback program. On Nov 9, the networking software company revealed its plan to buyback \$1 billion worth of its common stock over the next two fiscals. Its aggressive share-repurchase policies are anticipated to boost investor confidence. F5 Networks' strategy to return wealth to shareholders highlights its growth potential and stable liquidity position. We believe apart from enhancing shareholder returns, these initiatives also raise the market value of the stock. Through share repurchases and dividend payouts, companies boost investor confidence, persuading them to either buy or hold the scrip.

F5 benefits from an ongoing transition toward multi-cloud environments and rising demand for application security.

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## Reasons To Sell:

- ▼ F5 Networks has a competitive edge over ARX, BIG-IP and VIPRION. However, Cisco Systems represents the greatest competitive threat to F5 Networks, given the dominance of the former in the overall networking market. Cisco has tremendous engineering and marketing resources at its disposal. Although F5's technology has been able to hold its leading position for many years, Cisco could potentially become more competitive if it invests more aggressively in the technology. In addition, Citrix Inc., Juniper Networks, Checkpoint Systems, Barracuda Networks also have a strong technology platform that could pose a more significant competitive threat on improved execution.
- ▼ F5 Networks continues to acquire a large number of companies. While this improves revenue opportunities, business mix and profitability, it also adds to integration risks. Moreover, frequent acquisitions are a distraction for management, which could impact organic growth, going forward.
- ▼ A substantial portion of the company's sales is derived from outside the U.S. During fiscal 2020, 42% of total revenue was garnered in currencies other than the U.S. dollar. This exposes the company to exchange rate fluctuations and counterparty default risk. Thus, an economic condition, which impacts foreign currency exchange rates, does result in transaction exposure, which leads to profit fluctuation. Moreover, execution challenges in Europe as a result of the macro economic uncertainty in the region (particularly UK and Germany), are an overhang on the company.
- ▼ Although ongoing transition toward subscription is likely to boost growth in the long run, we remain apprehensive in the near term as the transition continues to weigh on the results. Customers' adherence to a cloud-first mentality is a downtrend for hardware investment and use cases as this inclination is prolonging deal timings. Notably, declining systems revenue growth is putting pressure on the company, which is evident from the last quarterly results.

Declining systems revenues, a volatile spending atmosphere and competition from peers remain key concerns for the company.

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## Last Earnings Report

### F5 Networks Q4 Results

F5 Networks reported fourth-quarter fiscal 2020 non-GAAP earnings per share of \$2.43, beating the Zacks Consensus Estimate of \$2.38. Moreover, the quarterly earnings came in higher than management's guidance of \$2.30-\$2.42 per share. Nonetheless, non-GAAP earnings fell 6.2% from the year-ago quarter as elevated operating expenses offset the benefit of higher revenues to a large extent.

Non-GAAP revenues increased 4% year over year to \$615 million, surpassing the Zacks Consensus Estimate of \$607 million on solid software growth. Also, revenues came in line with the company's high-end guided range of \$595-\$615 million.

### Revenue Details

Product revenues (45% of total revenues) during the fiscal fourth quarter totaled \$280 million, up 6% year over year. Software sales jumped 36% year over year to \$113 million, accounting for approximately 40% of the total Product revenues.

The upside in Software sales can be attributed to the revenue contribution from the recently-acquired Shape Security business as well as the growing adoption of the Enterprise License Agreement (ELA) and annual subscriptions among customers. Shape contributed nearly \$23 million to the company's Software business revenues during the reported quarter.

Service revenues (55% of total revenues) increased 3% to \$336 million. Improvements to the tools and processes that the company's team uses to identify and secure renewals are among the key catalysts. Further, healthy services attached in renewal rates to software sold as perpetual or as subscriptions, including NGINX-related sales, were tailwinds. Moreover, increase in consulting-services demand associated with the rising software sales is an upside.

### Margins

GAAP gross margin contracted 280 basis points (bps) to 81.8%. Non-GAAP gross margin shrunk 190 bps to 84.4%.

Operating expenses flared up 5.7% year on year to \$335 million. As a result of lower gross margin and higher operating expenses, the company's non-GAAP operating margin shrunk 250 bps to 30.1%.

### Balance Sheet & Cash Flow

F5 Networks exited the July-September quarter with cash and investments of \$1.3 billion compared with the prior-year quarter's \$1.1 billion.

During fiscal 2020, the company generated \$661 million of operating cash flow. Moreover, during the same time frame, it bought back \$100 million worth of its common stocks.

### Outlook

The company issued an encouraging business outlook for the first quarter of fiscal 2021. For the fiscal first quarter, F5 Networks expects non-GAAP revenues of \$595-\$615 million. The company anticipates non-GAAP earnings per share in the \$2.26-\$2.38 band.

We believe surging demand for multi-cloud application services will be a key growth driver. Furthermore, solid demand for software solutions is a tailwind. Rising traction from subscription and ELA offerings is another driving factor.

Additionally, F5 Networks and NGINX's first combined solution, Controller 3.0, is expected to increase the total addressable market and deal sizes by spending more use cases across DevOps and Super-NetOps customer profiles.

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| Quarter Ending   | 09/2020      |
|------------------|--------------|
| Report Date      | Oct 26, 2020 |
| Sales Surprise   | 1.27%        |
| EPS Surprise     | 2.10%        |
| Quarterly EPS    | 2.43         |
| Annual EPS (TTM) | 9.39         |

## Recent News

On Nov 10, F5 Networks introduced BIG-IP Service Proxy for Kubernetes (SPK) and Carrier-Grade Aspen Mesh, which will enable service providers to accelerate the deployment of cloud-native 5G standalone core network.

On Nov 9, F5 Networks said that it intends to buyback \$1 billion worth of its common stocks through share repurchases over the next two fiscals.

On Oct 6, F5 Networks introduced Shape AI Fraud Engine (SAFE), a new SaaS solution that eliminates fraudulent online transactions that get past existing fraud tools.

On Sep 25, F5 Networks announced the appointment of Elizabeth Buse, former CEO of Monitise PLC, a global mobile banking and payments company, to its Board of Directors.

On Jul 7, F5 Networks introduced Silverline Shape Defense, a security solution that protects websites from the rising tide of fake internet traffic.

On Jun 29, F5 Networks announced signing an agreement with Rakuten Mobile to provide an extensive suite of application security services for the Rakuten Communications Platform (RCP), a next-generation operator enabling platform.

On Jun 9, F5 Networks announced that Lynwood Investments CY Limited has sued it in a dispute concerning the NGINX web server software business enterprise.

On May 21, F5 announced the appointment of Tom Fountain as Executive Vice President of Global Services and Chief Strategy Officer.

On May 12, F5 introduced new solutions to provide enhanced application visibility and control throughout the application lifecycle.

On Apr 7, F5 announced the appointment of Sri Shivananda to its Board of Directors.

On Feb 4, F5 announced a customer-focused approach to Application Protection, equipped with new offerings and the recent buyout of Shape Security. The portfolio will safeguard all applications without affecting end-user experience or decelerating time-to-market.

On Jan 28, F5 launched a cloud-native application delivery solution, NGINX Controller 3.0, to help organizations increase business agility, mitigate risk, and enhance their customers' digital experiences.

On Jan 25, F5 Networks completed the acquisition of Shape Security which will add protection from automated attacks, botnets, and targeted fraud to F5's portfolio of application services.

## Valuation

Shares of F5 have increased 18% in the year-to-date (YTD) period and 13.4% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector have gained 89.3% and 30.4%, respectively, YTD. Over the past year, the Zacks sub-industry and the sector have gained 83.9% and 34.6%, respectively.

The S&P 500 Index has gained 11.3% year to date and 14.2% in the past year.

The stock is currently trading at 4.05X forward 12-month sales, which compares to 10.08X for the Zacks sub-industry, 4.27X for the Zacks sector and 4.18X for the S&P 500 index.

Over the past five years, the stock has traded as high as 5.44X and as low as 2.24X, with a 5-year median of 3.78X. Our Neutral recommendation indicates that the stock will perform in-line with the market. Our \$173 price target reflects 4.25X trailing 12-month sales.

The table below shows summary valuation data for FFIV

| Valuation Multiples - FFIV |               |       |              |        |         |
|----------------------------|---------------|-------|--------------|--------|---------|
|                            |               | Stock | Sub-Industry | Sector | S&P 500 |
| P/S F12M                   | Current       | 4.05  | 10.08        | 4.27   | 4.18    |
|                            | 5-Year High   | 5.44  | 10.08        | 4.48   | 4.30    |
|                            | 5-Year Low    | 2.24  | 3.07         | 2.77   | 3.17    |
|                            | 5-Year Median | 3.78  | 5.47         | 3.44   | 3.67    |
| P/B TTM                    | Current       | 4.52  | 10.91        | 8.12   | 6.07    |
|                            | 5-Year High   | 9.58  | 12.15        | 8.32   | 6.17    |
|                            | 5-Year Low    | 2.85  | 2.31         | 4.09   | 3.74    |
|                            | 5-Year Median | 6.42  | 5.74         | 5.60   | 4.91    |
| EV/Sales TTM               | Current       | 3.93  | 11.06        | 5.02   | 4.16    |
|                            | 5-Year High   | 5.17  | 12.06        | 5.23   | 4.23    |
|                            | 5-Year Low    | 1.92  | 3.07         | 2.85   | 2.62    |
|                            | 5-Year Median | 3.50  | 6.08         | 3.86   | 3.58    |

As of 11/24/2020

Source: Zacks Investment Research

## Industry Analysis Zacks Industry Rank: Bottom 27% (186 out of 254)



Source: Zacks Investment Research

## Top Peers

| Company (Ticker)                | Rec          | Rank |
|---------------------------------|--------------|------|
| j2 Global, Inc. (JCOM)          | Neutral      | 2    |
| Nice Ltd. (NICE)                | Neutral      | 4    |
| Anaplan, Inc. (PLAN)            | Neutral      | 3    |
| Snap Inc. (SNAP)                | Neutral      | 3    |
| Sogou Inc. Sponsored ADR (SOGO) | Neutral      | 4    |
| Twitter, Inc. (TWTR)            | Neutral      | 3    |
| Workday, Inc. (WDAY)            | Neutral      | 3    |
| Splunk Inc. (SPLK)              | Underperform | 5    |

The positions listed should not be deemed a recommendation to buy, hold or sell.

| Industry Comparison Industry: Internet - Software |         |            |           | Industry Peers |              |           |
|---------------------------------------------------|---------|------------|-----------|----------------|--------------|-----------|
|                                                   | FFIV    | X Industry | S&P 500   | SNCR           | SPLK         | WDAY      |
| Zacks Recommendation (Long Term)                  | Neutral | -          | -         | Neutral        | Underperform | Neutral   |
| Zacks Rank (Short Term)                           | 3       | -          | -         | 3              | 5            | 3         |
| VGM Score                                         | C       | -          | -         | A              | F            | B         |
| Market Cap                                        | 10.15 B | 1.29 B     | 26.32 B   | 130.99 M       | 31.84 B      | 50.51 B   |
| # of Analysts                                     | 10      | 5          | 14        | 2              | 11           | 31        |
| Dividend Yield                                    | 0.00%   | 0.00%      | 1.46%     | 0.00%          | 0.00%        | 0.00%     |
| Value Score                                       | C       | -          | -         | B              | F            | D         |
| Cash/Price                                        | 0.12    | 0.10       | 0.07      | 0.35           | 0.06         | 0.06      |
| EV/EBITDA                                         | 18.92   | -0.95      | 14.86     | -13.80         | 4,439.13     | -788.07   |
| PEG F1                                            | 1.84    | 6.17       | 2.79      | NA             | NA           | 4.21      |
| P/B                                               | 4.52    | 7.25       | 3.68      | 2.55           | 19.07        | 16.41     |
| P/CF                                              | 20.00   | 31.08      | 13.94     | 4.01           | 1,120.86     | 473.97    |
| P/E F1                                            | 16.59   | 63.39      | 21.92     | NA             | NA           | 84.12     |
| P/S TTM                                           | 4.32    | 5.45       | 2.87      | 0.42           | 13.59        | 12.14     |
| Earnings Yield                                    | 6.03%   | 0.25%      | 4.33%     | 0.00%          | -0.17%       | 1.19%     |
| Debt/Equity                                       | 0.17    | 0.03       | 0.70      | 0.00           | 1.35         | 0.23      |
| Cash Flow (\$/share)                              | 8.24    | -0.00      | 6.93      | 0.74           | 0.18         | 0.45      |
| Growth Score                                      | D       | -          | -         | A              | F            | A         |
| Historical EPS Growth (3-5 Years)                 | 9.49%   | 19.13%     | 9.72%     | NA             | NA           | NA        |
| Projected EPS Growth (F1/F0)                      | 6.05%   | 5.63%      | 0.45%     | 100.00%        | -118.23%     | 34.78%    |
| Current Cash Flow Growth                          | -10.95% | 4.17%      | 5.29%     | -137.28%       | -139.74%     | 10.10%    |
| Historical Cash Flow Growth (3-5 Years)           | 3.37%   | 19.20%     | 8.33%     | -21.83%        | 16.42%       | 23.82%    |
| Current Ratio                                     | 1.39    | 1.73       | 1.38      | 1.03           | 2.50         | 1.09      |
| Debt/Capital                                      | 14.19%  | 7.38%      | 41.99%    | 4.26%          | 57.39%       | 18.55%    |
| Net Margin                                        | 13.08%  | -17.74%    | 10.44%    | -5.05%         | -27.62%      | -8.14%    |
| Return on Equity                                  | 19.72%  | -6.97%     | 14.99%    | 24.27%         | -25.57%      | -7.29%    |
| Sales/Assets                                      | 0.54    | 0.57       | 0.50      | 0.61           | 0.44         | 0.57      |
| Projected Sales Growth (F1/F0)                    | 5.96%   | 7.65%      | 0.23%     | -6.19%         | -1.75%       | 17.87%    |
| Momentum Score                                    | A       | -          | -         | C              | B            | A         |
| Daily Price Change                                | 1.63%   | 0.00%      | 1.91%     | 1.71%          | 0.19%        | 2.92%     |
| 1-Week Price Change                               | 1.03%   | 2.99%      | 0.21%     | 9.82%          | 2.94%        | -5.68%    |
| 4-Week Price Change                               | 20.98%  | 4.82%      | 11.71%    | 8.00%          | -4.92%       | -0.48%    |
| 12-Week Price Change                              | 25.74%  | -0.28%     | 11.69%    | -32.19%        | -11.23%      | -11.84%   |
| 52-Week Price Change                              | 13.44%  | 25.52%     | 6.61%     | -33.26%        | 34.55%       | 19.75%    |
| 20-Day Average Volume (Shares)                    | 956,414 | 539,704    | 2,311,168 | 433,327        | 1,222,267    | 2,492,121 |
| EPS F1 Estimate 1-Week Change                     | 0.98%   | 0.00%      | 0.00%     | 0.00%          | 0.00%        | 0.00%     |
| EPS F1 Estimate 4-Week Change                     | 1.32%   | 0.00%      | 0.98%     | 36.05%         | 0.00%        | 0.00%     |
| EPS F1 Estimate 12-Week Change                    | 0.27%   | 2.09%      | 3.48%     | 36.05%         | -2.83%       | 27.10%    |
| EPS Q1 Estimate Monthly Change                    | 2.46%   | 0.00%      | 0.00%     | -18.75%        | 0.00%        | 0.00%     |

Source: Zacks Investment Research



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## Zacks Stock Rating System

We offer two rating systems that take into account investors' holding horizons: Zacks Rank and Zacks Recommendation. Each provides valuable insights into the future profitability of the stock and can be used separately or in combination with each other depending on your investment style.

### Zacks Recommendation

The Zacks Recommendation aims to predict performance over the next 6 to 12 months. The foundation for the quantitatively determined Zacks Recommendation is trends in the company's estimate revisions and earnings outlook. The Zacks Recommendation is broken down into 3 Levels; Outperform, Neutral and Underperform. Unlike many Wall Street firms, we maintain a balance between the number of Outperform and Neutral recommendations. Our team of 70 analysts are fully versed in the benefits of earnings estimate revisions and how that is harnessed through the Zacks quantitative rating system. But we have given our analysts the ability to override the Zacks Recommendation for the 1200 stocks that they follow. The reason for the analyst over-rides is that there are often factors such as valuation, industry conditions and management effectiveness that a trained investment professional can spot better than a quantitative model.

### Zacks Rank

The Zacks Rank is our short-term rating system that is most effective over the one- to three-month holding horizon. The underlying driver for the quantitatively-determined Zacks Rank is the same as the Zacks Recommendation, and reflects trends in earnings estimate revisions.

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### Zacks Style Scores

The Zacks Style Score is as a complementary indicator to the Zacks rating system, giving investors a way to focus on the highest rated stocks that best fit their own stock picking preferences.

Academic research has proven that stocks with the best Value, Growth and Momentum characteristics outperform the market. The Zacks Style Scores rate stocks on each of these individual styles and assigns a rating of A, B, C, D and F. We also produce the VGM Score (V for Value, G for Growth and M for Momentum), which combines the weighted average of the individual Style Scores into one score. This is perfectly suited for those who want their stocks to have the best scores across the board.

|                |   |
|----------------|---|
| Value Score    | C |
| Growth Score   | D |
| Momentum Score | A |
| VGM Score      | C |

As an investor, you want to buy stocks with the highest probability of success. That means buying stocks with a Zacks Recommendation of Outperform, which also has a Style Score of an A or a B.

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## Disclosures

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## Additional Disclosure

This material represents an assessment of the market and economic environment at a specific point in time and is not intended to be a forecast of future events, or a guarantee of future results. Forward-looking statements are subject to certain risks and uncertainties. Any statements that refer to expectations, projections or characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. Actual results, performance, or achievements may differ materially from those expressed or implied.

**Returns quoted represent past performance which is no guarantee of future results.** Investment returns and principal value will fluctuate so that when shares are redeemed, they may be worth more or less than their original cost. Current performance may be higher or lower than the performance shown.

Investing involves risk; principal loss is possible. There is no guarantee that companies that can issue dividends will declare, continue to pay or increase dividends.

## Glossary of Terms and Definitions

**52-Week High-Low:** The range of the highest and lowest prices at which a stock has traded during the past year. This range is determined based on the stock's daily closing price which may differ from the intra-day high or low. Many investors use it as a technical indicator to determine a stock's current value and future price movement. The idea here is that if price breaks out from the 52-week range, in either direction, the momentum may continue in the same direction.

**20-Day Average Volume (Shares):** The average number of shares of a company traded in a day over the last 20 days. It is a direct indication of a security's overall liquidity. The higher the average daily trading volume, the easier it is to enter or exit the stock at a desired price with more buyers and sellers being available.

**Daily Price Change:** This is the percentage difference between a trading day's closing price and the prior trading day's closing price. This item is updated at 9 p.m. EST each day.

**1-Week Price Change:** This is the percentage change in a stock's closing price over the last 5 trading days. This change reflects the collective buying and selling sentiment over the 1-week period.

A strong weekly price increase for the stock, especially when accompanied by increased volume, is an indication of it gaining momentum.

**4-Week Price Change:** This is the percentage change in a stock's closing price over the last 20 trading days or past 4 weeks. This is a medium-term price change metric and an indication of the stock gaining momentum.

**12-Week Price Change:** This is the percentage change of a stock's closing price over the last 60 trading days or past 12 weeks. Similar to 4-week price change, this is a medium-term price change metric. It shows whether a stock has been enjoying strong investor demand, or if it has been in consolidation, or distress over this period.

**52-Week Price Change:** This is the percentage change in a stock's closing price over the last 260 trading days or past 52 weeks. This long-term price change metric is a good reference point for investors. Some investors seek stocks with the best percentage price change over the last 52 weeks, expecting the momentum to continue.

**Market Cap:** The number of outstanding common shares of a company times its latest price per share. This figure represents a company's size, which indicates various characteristics, including price stability and risk, in which investors could be interested.

**Year-To-Date Price Change:** Change in a stock's daily closing price in the period of time beginning the first day of the current calendar year through to the previous trading day.

**# of Analysts:** Number of EPS estimates used in calculating the current-quarter consensus. These estimates come from the brokerage analysts tracking this stock. However, the number of such analysts tracking this stock may not match the number of estimates, as all brokerage analysts may not come up with an estimate or provide it to us.

**Beta:** A measure of risk commonly used to compare the volatility of a stock to the overall market. The S&P 500 Index is the base for calculating beta and carries a value of 1. A stock with beta below 1 is less risky than the market as a whole. And a stock with beta above 1 is riskier.

**Dividend:** The portion of earnings a company is expected to distribute to its common shareholders in the next 12 months for each share they own. Dividends are usually paid quarterly. Dividend payments reflect positively on a company and help maintain investors' trust. Investors typically find dividend-paying stocks appealing because the dividend adds to any market price appreciation to result in higher return on investment (ROI). Moreover, a steady or increasing dividend payment provides investors a cushion in a down market.

**Dividend Yield:** The ratio of a company's annual dividend to its share price. The annual dividend used in the ratio is calculated based on the most recent dividend paid by the company. Dividend yield is an estimate of the dividend-only return from a stock in the next 12 months. Since dividend itself doesn't change frequently, dividend yield usually changes with a stock's price movement. As a result, often an unusually high dividend yield is a result of weak stock price.

**S&P 500 Index:** The Standard & Poor's 500 (S&P 500) Index is an unmanaged group of securities considered to be representative of the stock market in general. It is a market-capitalization-weighted index of stocks of the 500 largest U.S. companies. Each stock's weight in the index is proportionate to its market value.

**Industry:** One of the 250+ groups that Zacks classifies all stocks into based on the nature of business. These groups are termed as expanded (aka "X") industries and map to their respective (economic) sectors; Zacks has 16 sectors.

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**Zacks Industry Rank:** The Zacks Industry Rank is determined by calculating the average Zacks Rank for all stocks in the industry and then assigning an ordinal rank to it. For example, an industry with an average Zacks Rank of 1.6 is better than an industry with an average Zacks Rank of 2.3. So, the industry with the better average Zacks Rank would get a better Zacks Industry Rank. If an industry has the best average Zacks Rank, it would be considered the top industry (1 out of 250+), which would place it at the top 1% of Zacks-ranked industries. Studies have shown that roughly half of a stock's price movement can be attributed to the industry group it belongs to. In fact, the top 50% of Zacks-ranked industries outperforms the bottom 50% by a factor of more than 2 to 1.

**Last EPS Surprise:** The percentage deviation of a company's last reported earnings per share from the Zacks Consensus Estimate. Companies with a positive earnings surprise are more likely to surprise again in the future (or miss again if they recently missed).

**Last Sales Surprise:** The percentage deviation of a company's last reported sales from the Zacks Consensus Estimate.

**Expected Report Date:** This is an estimated date of a company's next earnings release. The information originated or gathered by Zacks Investment Research from its information providers or publicly available sources is the basis of this estimate.

**Earnings ESP:** The Zacks Earnings ESP compares the Most Accurate Estimate to the Zacks Consensus Estimate for the yet-to-be reported quarter. The Most Accurate Estimate is the most recent version of the Zacks Consensus EPS Estimate. The idea here is that analysts revising their estimates closer to an earnings release have the latest information, which could potentially be more accurate than what they and others contributing to the consensus had predicted earlier. Thus, a positive or negative Earnings ESP reading theoretically indicates the likely deviation of the actual earnings from the consensus estimate. However, the model's predictive power is significant for positive ESP readings only. A positive Earnings ESP is a strong predictor of an earnings beat, particularly when combined with a Zacks Rank #1 (Strong Buy), #2 (Buy) or #3 (Hold). Our research shows that stocks with this combination produce a positive surprise nearly 70% of the time.

**Periods:**

**TTM:** Trailing 12 months. Using TTM figures is an effective way of analyzing the most-recent financial data in an annualized format that helps neutralize the effects of seasonality and other quarter-to-quarter variation.

**F1:** Current fiscal year. This period is used to analyze the estimates for the ongoing full fiscal year.

**F2:** Next fiscal year. This period is used to analyze the estimates for the next full fiscal year.

**F12M:** Forward 12 months. Using F12M figures is an effective way of analyzing the near-term (the following four unreported quarters) estimates in an annualized manner. Instead of typically representing estimates for the full fiscal year, which may not represent the nitty-gritty of each quarter, F12M figures suggest an all-inclusive annualized estimate for the following four quarters. The annualization helps neutralize the potential effects of seasonality and other quarter-to-quarter variations.

**P/E Ratio:** The price-to-earnings ratio measures a company's current market price per share relative to its earnings per share (EPS). Usually, the trailing-12-month (TTM) EPS, current-fiscal-year (F1) EPS estimate, or forward-12-month (F12M) EPS estimate is used as the denominator. In essence, this ratio shows what the market is willing to pay today for each dollar of EPS. In other words, this ratio gives a sense of what the relative value of the company is at the already reported level of earnings or at a future level of earnings.

It is one of the most widely-used multiples for determining the value of a company and helps comparing its valuation with that of a competitor, the industry group or a benchmark.

**PEG Ratio:** The price/earnings to growth ratio is a stock's P/E ratio using current fiscal year (F1) EPS estimate divided by its expected EPS growth rate over the coming 3 to 5 years. This ratio essentially determines a stock's value by factoring in the company's expected earnings growth and is thus believed to provide a more complete picture than just the P/E ratio, particularly for faster-growing companies.

**P/S Ratio:** The price-to-sales ratio is calculated as a company's current price per share divided by trailing 12 months (TTM) sales or revenues per share. This ratio shows what the market is willing to pay today for each dollar of TTM sales per share. The P/S ratio is at times the only valuation metric when the company has yet to become profitable.

**Cash/Price Ratio:** The cash-to-price ratio or Cash Yield is calculated as cash and marketable securities per share divided by the company's current share price. Like the earnings yield, which shows the anticipated yield (or return) on a stock from earnings for each dollar invested, the cash yield does the same, with cash being the source of return instead of earnings. For example, a cash/price ratio of 0.08 suggests a return of 8% or 8 cents for every \$1 investment.

**EV/EBITDA Ratio:** The EV/EBITDA ratio, also known as Enterprise Multiple, is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by EBITDA (earnings before interest, taxes, depreciation and amortization). Usually, trailing-12-month (TTM) or forward-12-month (F12M) EBITDA is used as the denominator.

**EV/Sales Ratio:** The enterprise value-to-sales ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by annual sales. It is an expansion of the P/S valuation, which uses market value instead of enterprise value. The EV/Sales ratio is perceived as more accurate than P/S, in part, because the market capitalization does not take a company's debt into account when valuing it.

**EV/CF Ratio:** The enterprise value-to-cash flow ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by the trailing-12-month (TTM) operating cash flow. It's a measure of how long it would take to buy the entire business if you were able to use all the company's operating cash flow.

The EV/CF ratio is perceived as more accurate than the P/CF ratio, in part, because the market price does not take a company's debt into account when valuing it.

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**EV/FCF Ratio:** The enterprise value-to-free cash flow metric compares a company's enterprise value to its trailing-12-month (TTM) free cash flow (FCF). This metric is very similar to the EV/CF ratio, but is considered a more exact measure owing to the fact that it uses free cash flow, which subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding growth activities and payments to shareholders.

**P/EBITDA Ratio:** The P/EBITDA ratio is calculated as a company's per share market value divided by EBITDA (earnings before interest, taxes, depreciation, and amortization). This metric is very similar to the EV/EBITDA ratio, but is considered a little less exact measure as it uses market price, which does not take a company's debt into account. However, since EBITDA is often considered a proxy for cash income, the metric is used as a measure of what the market is willing to pay today for each dollar of the company's cash profitability in the trailing 12 months (TTM) or forward 12 months (F12M).

**P/B Ratio:** The price-to-book ratio is calculated as a company's current price per share divided by its book value (total assets – liabilities – preferred stocks) per share. In short, the book value is how much a company is worth. In other words, it reflects the total value of a company's assets that its common shareholders would receive if it were to be liquidated. So, the P/B ratio indicates whether you're paying higher or lower than what would remain if the company went bankrupt immediately. Investors typically use this metric to determine how a company's stock price stacks up to its intrinsic value.

**P/TB Ratio:** The price-to-tangible-book value ratio is calculated as a the per share market value of a company divided by the value of its tangible assets (total assets – liabilities – preferred stocks – intangible assets) per share. Tangible book value is the same thing as book value except it excludes the value of intangible assets to get a step closer to the baseline value of the company.

**P/CF Ratio:** The price-to-cash flow ratio measures a company's per share market price relative to its trailing-12-month (TTM) operating cash flow per share. This metric is used to determine whether a company is undervalued or overvalued relative to another stock, industry or sector. And like the P/E ratio, a lower number is typically considered better from the value perspective.

One of the reasons why P/CF ratio is often preferred over P/E ratio is the fact that operating cash flow adds back non-cash expenses such as depreciation and amortization to net income. This feature helps valuing stocks that have positive cash flow but are not profitable because of large noncash charges.

**P/FCF Ratio:** The price-to-free cash flow ratio is an extension of P/CF ratio, which uses trailing-12-month (TTM) free cash flow per share instead of operating cash flow per share. This metric is considered a more exact measure than P/CF ratio, as free cash flow subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding activities that generate additional revenues.

**Earnings Yield:** The earnings yield is calculated as current fiscal year (F1) EPS estimate divided by the company's current share price. The ratio, which is the inverse of the P/E ratio, measures the anticipated yield (or return) from earnings for each dollar invested in a stock today.

For example, earnings yield for a stock, which is trading at \$35 and expected to earn \$3 per share in the current fiscal year (F1), would be 0.0857 ( $3/35 = 0.0857$ ) or 8.57%. In other words, for \$1 invested in the stock today, the yield from earnings is anticipated to be 8.57 cents.

Investors most commonly compare the earnings yield of a stock to that of a broad market index (such as the S&P 500) and prevailing interest rates, such as the current 10-year Treasury yield. Since bonds and stocks compete for investors' dollars, stock investors typically demand a higher yield for the extra risk they assume compared to investors of U.S. Treasury-backed securities that offer virtually risk-free returns. This additional return is referred to as the risk premium.

**Debt/Equity Ratio:** The debt-to-equity ratio is calculated as a company's total liabilities divided by its shareholder equity. This metric is used to gauge a company's financial leverage. In other words, it is a measure of the degree to which a company is financing its operations through debt versus its own funds. The higher the ratio, the higher the risk for shareholders.

However, this ratio is difficult to compare across industry groups where ideal amounts of debt vary. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-equity ratio should be compared with other companies in the same industry.

**Cash Flow (\$/share):** Cash flow per share is calculated as operating cash flow (after-tax earnings + depreciation + other non-cash charges) divided by common shares outstanding. It is used by many investors as a measure of a company's financial strength. Since cash flow per share takes into consideration a company's ability to generate cash by adding back non-cash expenses, it is regarded by some as a more accurate measure of a company's financial situation than earnings per share, which could be artificially deflated.

**Current Ratio:** The current ratio or liquidity ratio is a company's current assets divided by its current liabilities. It measures a company's ability to pay short-term obligations. A current ratio that is in line with the industry average or slightly higher is generally considered acceptable. A current ratio that is lower than the industry average would indicate a higher risk of distress or default. A higher number is usually better. However, a very high current ratio compared to the industry average could be an indication of inefficient use of assets by management.

**Debt/Capital Ratio:** Debt-to-capital ratio is a company's total debt (interest-bearing debt + both short- and long-term liabilities) divided its total capital (interest-bearing debt + shareholders' equity). It is a measure of a company's financial leverage. All else being equal, the higher the debt-to-capital ratio, the riskier the stock.

However, this ratio can vary widely from industry to industry, the ideal amount of required debt being different. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-capital ratio should be compared with the same for its industry.

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**Net Margin:** Net margin is calculated as net income divided by sales. It shows how much of each dollar in sales generated by a company translates into profit. For example, if a company's net margin is 15%, its net income is 15 cents for every \$1 of sales it makes.

A change in margin can reflect either a change in business conditions, or a company's cost controls, or both. If a company's expenses are growing faster than sales, its net margin will decline. However, different net margin rates are considered good for different industries, so it's better to compare net margin rates of companies in the same industry group.

**Return on Equity:** Return on equity (ROE) is calculated as trailing-12-month net income divided by trailing-12-month average shareholder equity (including reinvested earnings). This metric is considered a measure of how effectively management is using a company's assets to generate profits. For example, if a company's ROE is 10%, it creates 10 cents profits for every \$1 shareholder equity, which is basically the company's assets minus debt. A company's ROE deemed good or bad depends on what's normal for its peers or industry group.

**Sales/Assets Ratio:** The sales-to-assets ratio or asset utilization ratio or asset turnover ratio is calculated as a company's annual sales divided by average assets (average of assets at the beginning of the year and at the year's end). This metric helps investors understand how effectively a company is using its assets to generate sales. For example, a sales-to-assets ratio of 2.5 indicates that the company generated \$2.50 in sales for every \$1 of assets on its books.

The higher the sales-to-assets ratio, the better the company is performing. However, similar to many other ratios, the asset turnover ratio tends to be higher for companies in certain industries/sectors than in others. So, a company's sales-to-assets ratio should be compared with the same for its industry/sector.

**Historical EPS Growth (3-5 Years):** This is the average annual (trailing-12-month) EPS growth rate over the last 3-5 years. This metric helps investors see how a company's EPS has grown from a long-term perspective.

Note: There are many factors that can influence short-term numbers — a recession will reduce this number, while a recovery will inflate it. The longterm perspective helps smooth out short-term events.

**Projected EPS Growth (F1/F0):** This is the estimated EPS growth rate for the current financial year. It is calculated as the consensus estimate for the current fiscal year (F1) divided by the reported EPS for the last completed fiscal year (F0).

**Current Cash Flow Growth:** It measures the latest year-over-year change in operating cash flow. Cash flow growth tells an investor how quickly a company is generating inflows of cash from operations. A positive change in the cash flow is desired and shows that more 'cash' is coming in than going out.

**Historical Cash Flow Growth (3-5 Years):** This is the annualized change in cash flow over the last 3-5 years. The change in a longer period helps put the current reading into proper perspective. By looking at the rate, rather than the actual dollar value, the comparison across the industry and peers becomes easier.

**Projected Sales Growth (F1/F0):** This metric looks at the estimated sales growth for the current year. It is calculated as sales estimate for the current fiscal year (F1) divided by the reported sales for the last completed fiscal year (F0).

Like EPS growth, a higher rate is better for sales growth. A look at a company's projected sales growth instantly tells you what the outlook is for their products and services. However, different sales growth rates are considered good for different industries, so it's better to compare sales growth rates of companies in the same industry group.

**EPS F1 Estimate 1-Week Change:** The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past week. The change in a company's consensus EPS estimate (or earnings estimate revision) has proven to be strongly correlated with the near-term price movement of its shares. It is an integral part of the Zacks Rank.

If a stock's consensus EPS estimate is \$1.10 now versus \$1.00 a week ago, that will be reflected as a 10% upward revision. If, on the other hand, it went from \$1.00 to 90 cents, that would be a 10% downward revision.

**EPS F1 Estimate 4-Week Change:** The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past four weeks.

A stock's earnings estimate revision in a 1-week period is important. But it's more meaningful to look at the longer-term revision. And, of course, the 4-week change helps put the 1-week change into proper perspective.

**EPS F1 Estimate 12-Week Change:** The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past 12 weeks.

This metric essentially shows how the consensus EPS estimate has changed over a period longer than 1 week or 4 weeks.

**EPS Q1 Estimate Monthly Change:** The percentage change in the Zacks Consensus EPS estimate for the current fiscal quarter over the past four weeks.

While the revision in consensus EPS estimate for the current fiscal year is strongly correlated with the near-term price movement of its shares, the estimate revision for the current fiscal quarter is an important metric as well, especially over the short term, and particularly as a stock approaches its earnings date. If a stock's Q1 EPS estimate decreases ahead of its earnings release, it's usually a negative sign, whereas an increase is a positive sign.