



Infrastructure and Cybersecurity Software Update


Harris Williams | Q4 2022

Infrastructure and Cybersecurity Software Observations and Key Trends




Infrastructure and Cybersecurity Software Market Landscape

SOFTWARE DEVELOPMENT / DEVOPS



Solutions that enable the software development lifecycle, including planning, creating, testing, and deploying software applications and systems



Application Lifecycle Management

Continuous Integration / Continuous Delivery

Version Management

Test Management

Select Market Participants

ATLASSIAN

BROADCOM

digital.ai

IBM

IDEA

MICRO FOCUS


Microsoft

ORACLE


PERFORCE

software

IT OPERATIONS MANAGEMENT



Solutions that help to manage the provisioning, capacity, performance, and availability of an organization's IT infrastructure



Infrastructure / App / Database Performance Monitoring

IT GRC and Asset Management

Service and Support Management

Operations Analytics

Select Market Participants

bmc

BROADCOM

CISCO

DATADOG

helpsystems

IBM

ivanti

MICRO FOCUS

servicenow

solarwinds

splunk

SECURITY



Solutions that protect software and systems against malicious attacks, unauthorized access and resource use, and other external and internal risks



Identity and Access Management

Network / App / Data Security

Advanced Threat Protection

SIEM / Security Analysis

Select Market Participants

CHECK POINT

CISCO

okta

paloalto

Qualys

SailPoint

Secureworks


Symantec

tenable


zendesk

zscaler

DATA MANAGEMENT



Solutions that integrate, cleanse, migrate, and manage data across platforms to produce accurate and consistent information



Data Integration

Data Quality and Governance

Database Management

Data Analytics

Select Market Participants

alteryx

hedera

Microsoft

precisely

Rocket

SAP


software

splunk


tableau

talend

CLOUD MANAGED SERVICES



Solutions that manage cloud security, computing, storage, network operations, and application stacks to automate and enhance business operations



PaaS / aPaaS / iPaaS

Managed Hosting and Applications

Managed Security

Backup and Disaster Recovery

Select Market Participants

amazon

DELL Technologies

Google

Microsoft

MuleSoft

salesforce

rackspace technology

Red Hat

IBM

SAP

Secureworks

vmware

COLLABORATION / COMMUNICATION



Solutions that enable groups and teams to communicate, share, coordinate, cooperate, and solve problems for the purpose of completing a task



Project Portfolio Management

Business Process Management

Communications PaaS

Agile Project Management

Select Market Participants

Adobe

ATLASSIAN

CISCO

Google

Microsoft

ORACLE

salesforce

smartsheet

twilio

workday

What We're Reading

Forbes: The Largest Attack Surface: Why Enterprises Need to Bolster Their Go-To-Market Security Efforts

Cybersecurity News

“Over recent years, GTM leaders have taken a stand, propelling themselves to the front lines of security, fighting bots, fake users, bad actors, fraudsters, and other threats that compromise the integrity of their operation. The ‘new boardroom discussion’ is all about the GTM’s security posture, as leaders are expected to build cyber resilience around their go-to-market operation. The expectation is that every asset in the GTM environment should be protected from abuse, exploitation, and fraud, an expectation that is now becoming top of mind for any modern-day org.”

Read the full article [here](#).

LEK: Threat Intelligence: As Threats Escalate, the Market Evolves

Cybersecurity News

“Threats are not going away. We live in a world of increasing complexity, fragility, and stress. That spells opportunity for vendors and investors able to respond to—and drive—value chain transformation. The threat intelligence leaders of the future will be those vendors that can take a holistic view and develop holistic offerings. One thing is certain: The array of organizational threats will be more intense in five years than it is today.”

Read the full article [here](#).

Oliver Wyman: Mid-Market: The New Frontier for IT Services

IT Services News

“In the aftermath of the pandemic, many companies have decided to catch up with key investments to accelerate the transformation to the cloud, address growing cybersecurity requirements and, ultimately, modernize their application landscape. Until now, about half of mid-market customers have opted to manage IT primarily in-house, due to concerns about protecting sensitive data and the cost advantage.”

Read the full article [here](#).

Venture Beat: 5 Ways to Secure DevOps

DevOps News

“A typical devops team in a \$500 million enterprise has more than 200 concurrent projects in progress, with over 70% dedicated to safeguarding and improving digital customer experiences. Devops teams are looking to save every second they can on every project, as a large percentage of their total compensation is on the line. Boston Consulting Group (BCG) says that the more software-intensive a business is, the faster and more effective the delivery of new offerings needs to be to create competitive advantages, making it a critical capability for long-term survival.”

Read the full article [here](#).

Recent HW Infrastructure and Cybersecurity Software Content

- Observations on the European Software Sector



[Link to Read](#)

- Observations on the Compliance Technology Sector



[Link to Read](#)

Select Q3 2022 Infrastructure and Cybersecurity Software Transactions

Vista Equity's Pending Acquisition of KnowBe4

KnowBe4

Target

VISTA

Buyer

Announced September 16, 2022

EV: \$4B
EV / LTM Revenue: 14.5x
EV / EBITDA: NM

- KnowBe4 is a leading provider of a security awareness framework that allows businesses to assess, track, and mitigate the ongoing threat of social engineering attacks to their cybersecurity.
- Upon completion of the acquisition, Vista Equity's deep software expertise, capital support, and operational capabilities will support KnowBe4's focus on driving consistent innovation on a path for long-term growth.

Thoma Bravo's Pending Acquisition of Ping Identity

PingIdentity.

Target

THOMABRAVO

Buyer

Announced August 3, 2022

EV: \$3B
EV / LTM Revenue: 9.1x
EV / EBITDA: NA

- Ping Identity is a leading provider of multi-factor authentication, single sign-on, access management, API security, directory, and data governance capabilities.
- Thoma Bravo's security software investing and operational expertise will enable Ping Identity to accelerate its cloud transformation and delivery of industry-leading identity security experiences for customers worldwide.

Open Text's Pending Acquisition of Micro Focus

MICRO FOCUS

Target

opentext™

Buyer

Announced August 25, 2022

EV: \$6B
EV / LTM Revenue: 2.1x
EV / EBITDA: 8.9x

- Micro Focus is a provider of a broad set of IT solutions focused on security, IT ops management, application delivery management, information management, governance, and application modernization and connectivity.
- Upon completion of the acquisition, the combined company will be one of the world's largest software and cloud businesses with a tremendous marquee customer base, global scale, and comprehensive go-to-market.

Zscaler's Acquisition of ShiftRight

ShiftRight

Target

zscaler

Buyer

July 31, 2022

EV: NA
EV / LTM Revenue: NA
EV / EBITDA: NA

- ShiftRight is a provider of closed loop security workflow technology that automates accountability and responsibility management for security teams.
- Post-transaction, the integration of ShiftRight's technology into Zscaler's cloud platform will help customers establish clear lines of responsibility and provide real-time visibility for their security posture.

Cisco's Acquisition of AppOmni

AppOmni

Target

CISCO

Buyer

August 9, 2022

EV: NA
EV / LTM Revenue: NA
EV / EBITDA: NA

- AppOmni is a provider of a data security platform that identifies cloud API data leaks and other security exposures and delivers continuous monitoring of SaaS applications.
- Post-transaction, Cisco's investment in AppOmni will help the company propel product development and expand its market-leading comprehensive security capabilities to cover additional SaaS applications.

Hellman & Friedman and Permira's Pending Acquisition of Zendesk

zendesk

Target

Hellman & Friedman

PERMIRA

Buyer

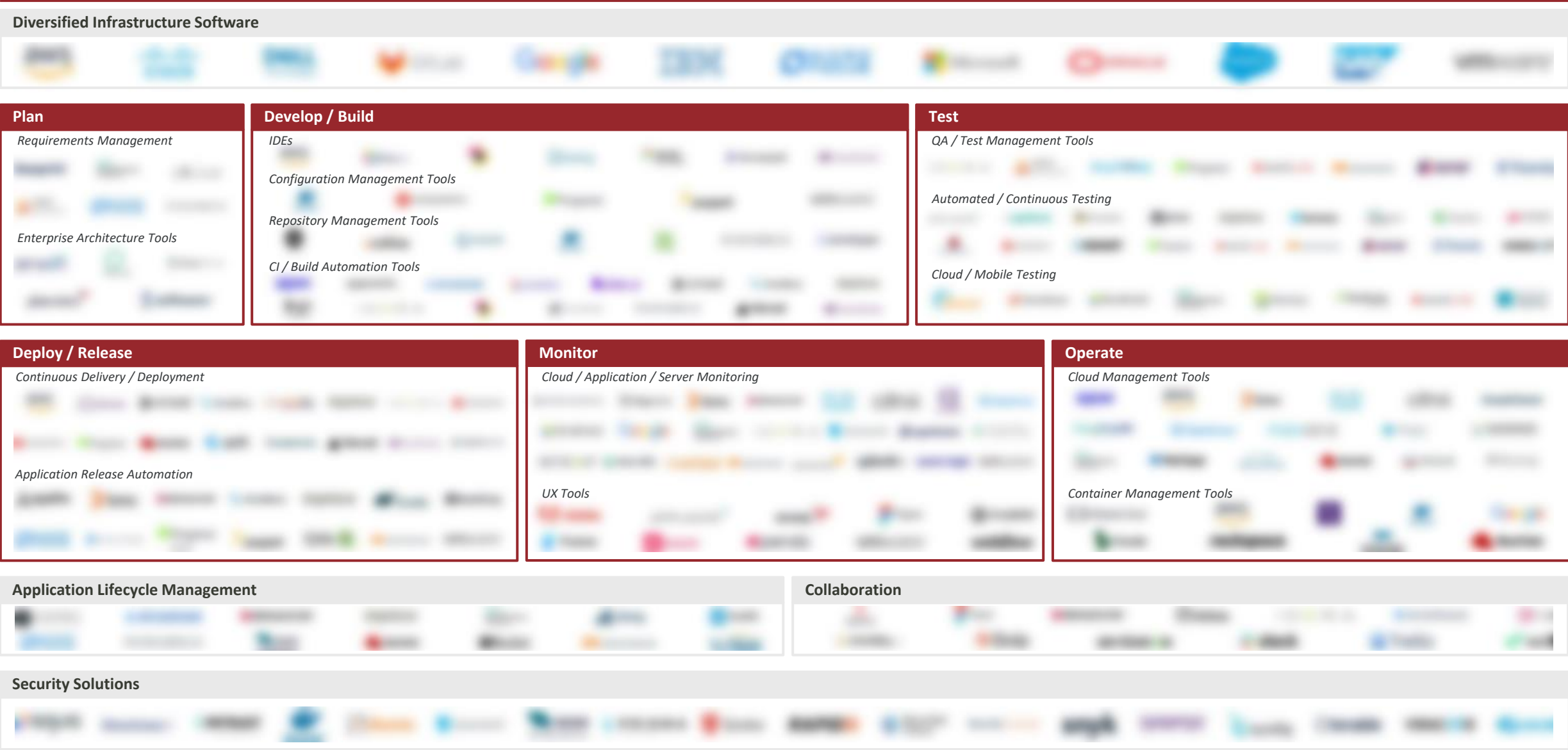
Announced June 24, 2022

EV: \$10B
EV / LTM Revenue: 6.9x
EV / EBITDA: NM

- Zendesk is a provider of customer service software and a sales CRM platform enabling a wide array of customer engagement software solutions.
- Hellman & Friedman and Permira's experience in scaling enterprise software companies will help Zendesk expand its integrated platform of solutions to its customers globally to promote strategic growth and innovation.

Infrastructure Software – DevOps Market Ecosystem

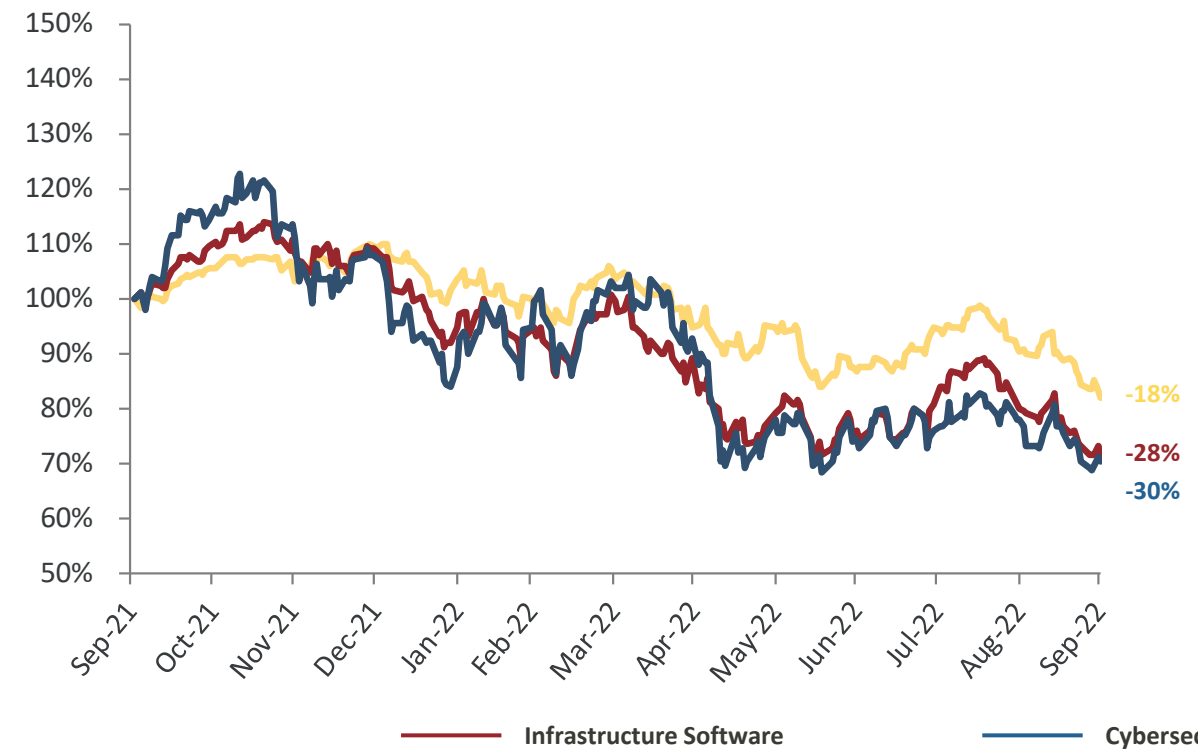
To view full market map, please reach out to the contacts listed on page (9)



Infrastructure and Cybersecurity Software Public Company Trended Stock Performance

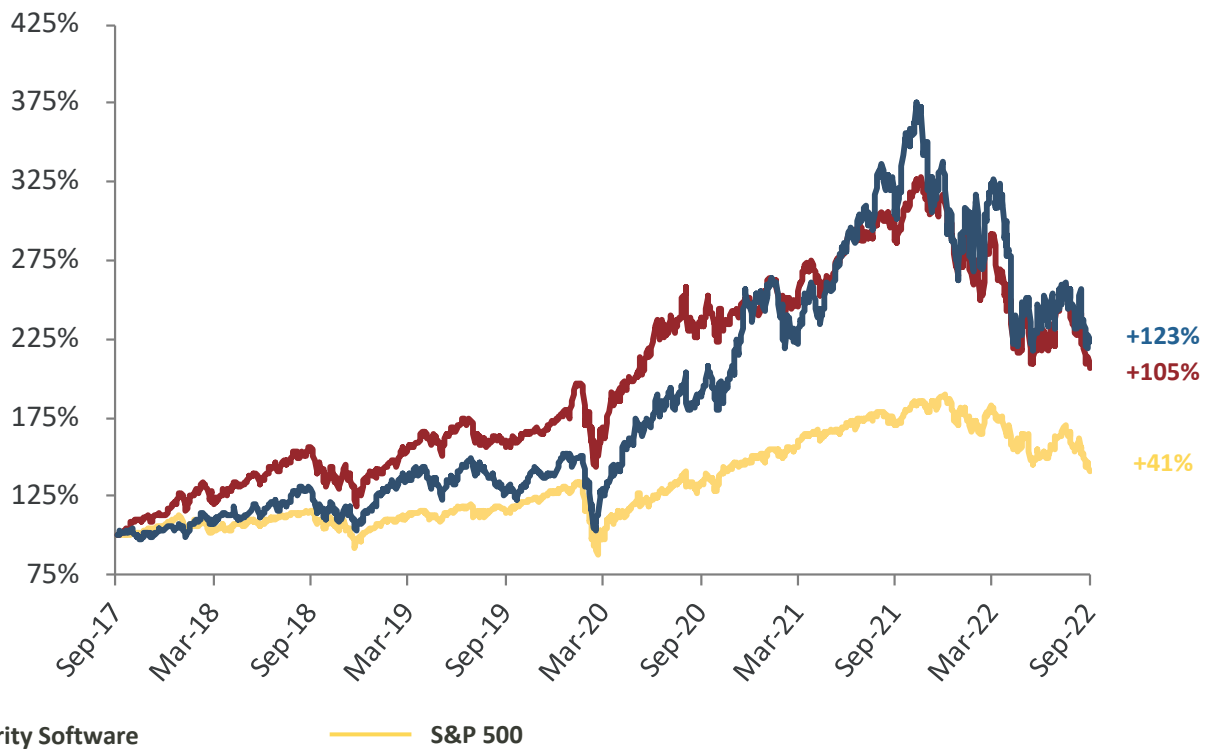
Public Company Stock Performance – Last 12 Months

Indexed Stock Price Performance for the Period September 2021 – September 2022



Public Company Stock Performance – 5 Years

Indexed Stock Price Performance for the Period September 2017 – September 2022

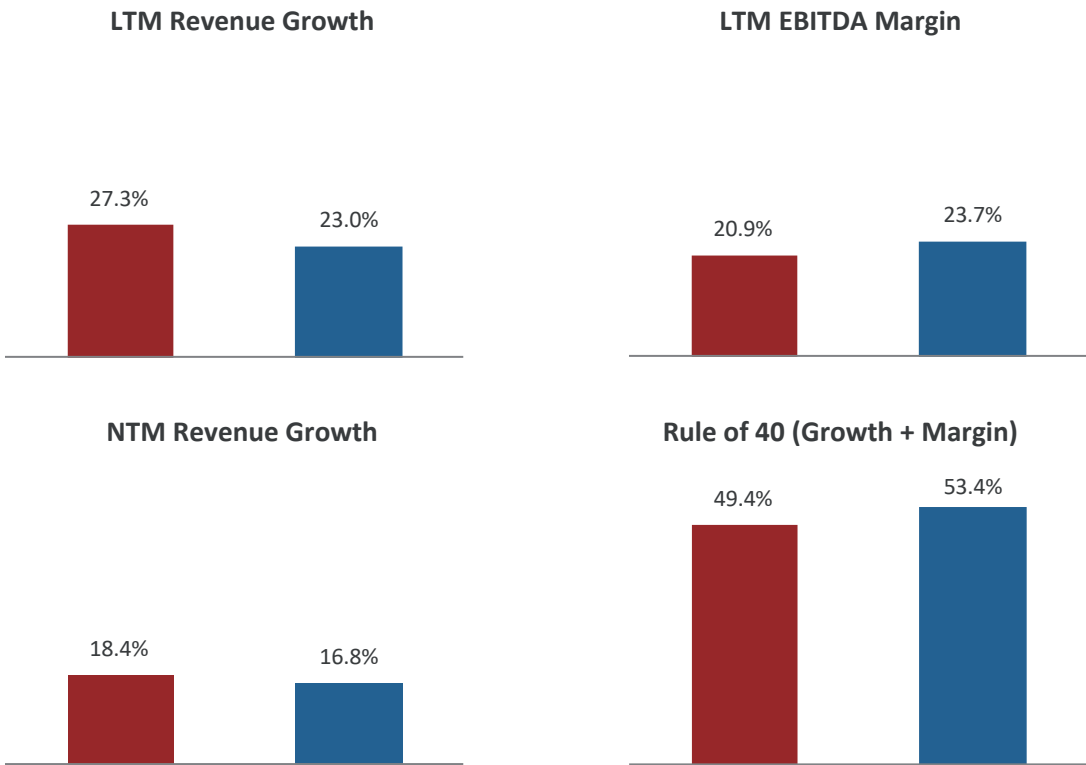


Infrastructure Software

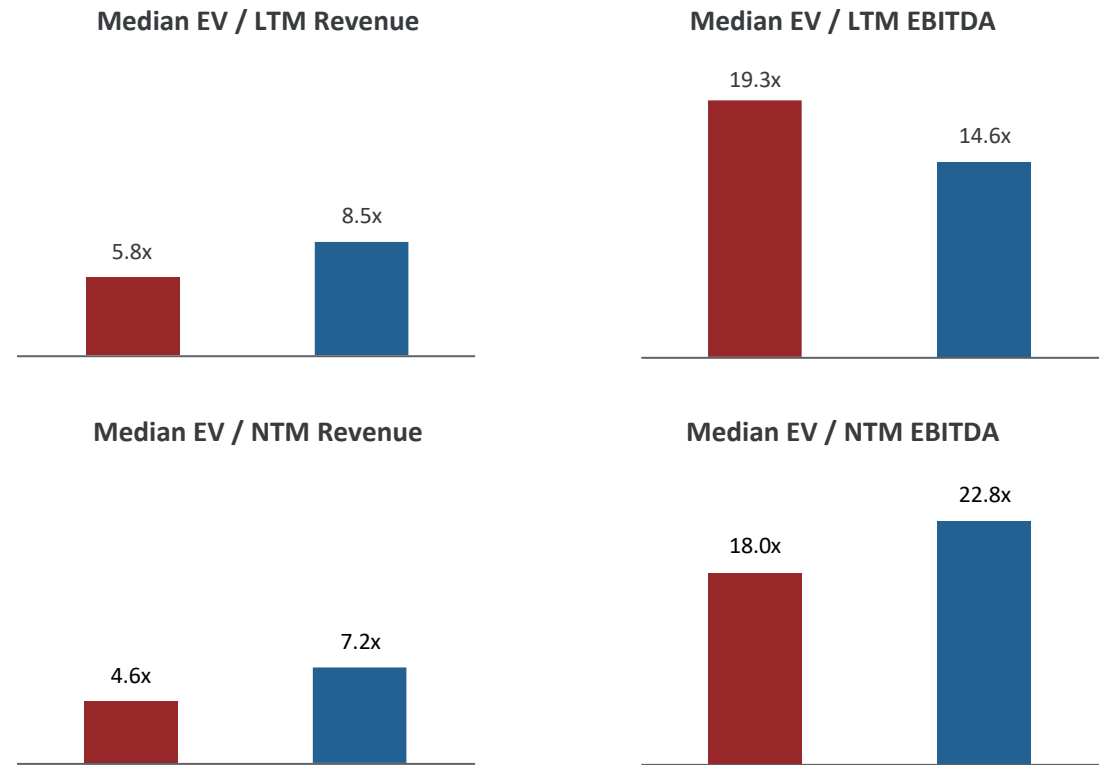
Cybersecurity Software

Infrastructure and Cybersecurity Software Public Company Operating and Valuation Metrics

Public Company Stock Performance – Operating Metrics



Public Company – Valuation Metrics



Infrastructure Software

Cybersecurity Software

Harris Williams: At a Glance



- **30 years** and thousands of deals closed
- **70%** of revenue from repeat clients
- **100%** of revenue is from M&A advisory
- **8** offices across the U.S. and Europe
- **10** industry groups with deep sector expertise

The Harris Williams Technology Group

Technology Coverage Areas

- Application Software
- Infrastructure & Cybersecurity Software
- IT & Managed Services

Sector Coverage Areas

- Architecture, Engineering & Construction
- Compliance
- eCommerce & Retail
- Education
- Government & Public Sector
- Healthcare
- Human Capital Management
- Industrial
- Office of the CFO
- Legal
- Real Estate & Property Tech
- Supply Chain & Logistics

Thematic Focus Areas

- SaaS / Cloud
- Integrated Payments
- Digital Transformation
- AI / Machine Learning

Harris Williams Contacts








































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Harris Williams Infrastructure and Cybersecurity Software and Services Experience

Selected Infrastructure and Cybersecurity Software Experience

 a portfolio company of  is being acquired by 	 a portfolio company of  has been acquired by 	 has recapitalized 	 has acquired  a portfolio company of  
 has acquired 	 has acquired 	 has received an investment from 	 has been acquired by 
 has acquired 	 has acquired 	 has acquired 	 a portfolio company of  and  has been acquired by 
 has been acquired by 	 has been acquired by 	 a wholly-owned affiliate of  has been acquired by 	 has been acquired by 

Harris Williams Client Engagement


a portfolio company of

is being acquired by


Company Background

Inspirage delivers end-to-end transformational initiatives solving the most critical supply chain challenges for product-based companies. The company provides deep industry expertise and unparalleled knowledge of Oracle’s cloud-based applications to deliver consulting, IP, and implementation solutions spanning product lifecycle management, supply chain management, logistics, ERP (enterprise resource planning), finance, enterprise performance management, and digital transformation. Inspirage partners with their customers to break down information silos and optimize performance to accelerate innovation, fuel growth, and achieve operational excellence.

Successful Outcome

The transaction delivered a successful outcome for Inspirage and Accenture. The acquisition will further enhance Accenture’s Oracle Cloud capabilities, helping the combined partnership accelerate innovation for clients through emerging technologies. Completion of the acquisition is subject to customary closing conditions.

Harris Williams served as financial advisor to Inspirage in this transaction.

Harris Williams Client Engagement


a portfolio company of

has been acquired by


Company Background

AST is a leading full-service enterprise systems integrator that serves over 200 public sector and commercial customers around the world. Clients rely on AST to lead and assist in systems integration, business process redesign, project management, systems administration, and training. AST’s services span enterprise resource planning, business intelligence, enterprise performance management, customer experience, and middleware through on-premise and cloud technology.

Successful Outcome











The transaction delivered a successful outcome for AST and Recognize. The partnership between AST and Recognize will accelerate efforts to create a more differentiated, purposeful digital transformation services provider through the enhancement of its global delivery footprint and expansion of solution offerings.

Harris Williams served as financial advisor to AST in this transaction.

Harris Williams Capabilities and Locations



Harris Williams has a broad range of industry expertise, which creates powerful opportunities. Our clients benefit from our deep sector experience, integrated industry intelligence and collaboration across the firm, and our commitment to learning what makes them unique. For more information, visit our website at www.harriswilliams.com.

	Aerospace, Defense & Government Services		Business Services		Building Products & Materials		Consumer		Energy, Power & Infrastructure
	Healthcare & Life Sciences		Industrials		Specialty Distribution		Technology		Transportation & Logistics

Office Locations

United States

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Phone: +1 (612) 359-2700

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Phone: +1 (415) 288-4260

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Phone: +1 (202) 207-2300

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Sources and Disclosures

Sources

1. S&P Capital IQ

Disclosures and Disclaimers

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Appendix

Infrastructure Software Public Market Operational and Valuation Metrics

As of September 30, 2022

\$ in millions

\$ in millions				Revenue Growth		Enterprise Value / Revenue		Enterprise Value / EBITDA		
Company	Enterprise Value	Market Capitalization	% of 52 Week High	LTM	NTM	LTM EBITDA Margin	LTM	NTM	LTM	NTM
Diversified Infrastructure Software										
Microsoft	\$1,894,161	\$1,920,840	73.4%	18.0%	10.4%	49.4%	9.6x	8.7x	19.3x	17.4x
Oracle	244,234	186,198	65.7%	4.8%	17.8%	43.6%	5.8x	4.9x	13.2x	10.5x
Cisco Systems	166,960	176,571	66.3%	5.6%	1.1%	31.2%	3.2x	3.2x	10.4x	8.8x
IBM	174,116	126,991	95.7%	27.3%	3.2%	20.4%	2.9x	2.8x	14.3x	10.6x
SAP	115,251	106,371	70.0%	(4.3%)	4.6%	21.4%	3.7x	3.6x	17.5x	11.0x
Software AG	2,062	2,445	75.1%	(7.4%)	13.6%	17.4%	2.3x	2.0x	13.1x	9.9x
Median	\$170,538	\$151,781	71.7%	5.2%	7.5%	26.3%	3.5x	3.4x	13.8x	10.5x
Cloud / SaaS Infrastructure Software										
ServiceNow	\$93,516	\$95,323	67.2%	27.7%	19.1%	10.2%	14.2x	11.9x	NM	38.2x
Atlassian	47,641	47,641	38.8%	34.2%	16.7%	NM	17.0x	14.6x	NM	79.6x
MongoDB	17,087	17,676	44.0%	52.3%	29.3%	NM	17.5x	13.5x	NM	NM
Okta	14,163	14,263	32.7%	62.0%	32.7%	NM	9.7x	7.3x	NM	NM
Zendesk	8,905	9,131	48.3%	30.7%	18.5%	NM	5.9x	5.0x	NM	41.8x
Qualys	4,404	4,899	84.0%	16.6%	12.8%	36.4%	9.8x	8.7x	27.0x	22.5x
Smartsheet	3,698	4,069	36.7%	44.3%	35.3%	NM	6.1x	4.5x	NM	NM
New Relic	3,101	3,349	38.6%	19.8%	12.4%	NM	3.8x	3.4x	NM	29.3x
Nutanix	3,382	3,281	32.9%	19.1%	(1.6%)	NM	2.1x	2.2x	NM	NM
Median	\$8,905	\$9,131	38.8%	30.7%	18.5%	23.3%	9.7x	7.3x	27.0x	38.2x
Median	\$17,087	\$17,676	65.7%	19.8%	13.6%	26.3%	5.9x	4.9x	14.3x	17.4x

Infrastructure Software Public Market Operational and Valuation Metrics by Sector

As of September 30, 2022

\$ in millions

\$ in millions				Revenue Growth		Enterprise Value / Revenue		Enterprise Value / EBITDA		
Company	Enterprise Value	Market Capitalization	% of 52 Week High	LTM	NTM	LTM EBITDA Margin	LTM	NTM	LTM	NTM
Service Support Management										
ServiceNow	\$93,516	\$95,323	67.2%	29.5%	25.7%	11.4%	14.9x	11.9x	NM	38.2x
Zendesk	\$8,905	\$9,131	48.3%	31.1%	25.8%	NM	6.2x	5.0x	NM	41.8x
PagerDuty	\$2,016	\$2,177	49.2%	33.3%	28.1%	NM	6.6x	5.2x	NM	NM
IT Operations Management										
SolarWinds	\$2,868	\$1,645	29.1%	12.1%	4.4%	14.0%	4.0x	3.8x	28.4x	9.4x
Sumo Logic	\$514	\$867	31.9%	22.0%	19.3%	NM	2.0x	1.7x	NM	NM
Remote Connectivity and Collaboration										
Atlassian	\$47,641	\$47,641	38.8%	32.8%	25.7%	NM	18.3x	14.6x	NM	79.6x
Twilio	\$11,278	\$15,227	20.3%	57.4%	32.0%	NM	3.6x	2.7x	NM	46.3x
Dropbox	\$8,691	\$7,825	63.6%	12.1%	7.2%	22.3%	3.9x	3.7x	17.7x	10.1x
Smartsheet	\$3,698	\$4,069	36.7%	44.3%	35.3%	NM	6.1x	4.5x	NM	NM
Asana	\$3,318	\$3,345	12.1%	65.0%	37.1%	NM	7.9x	5.7x	NM	NM
Virtualizaton / Client Computing										
VMware	\$57,363	\$48,036	67.9%	7.6%	7.0%	22.3%	4.4x	4.1x	19.8x	11.5x
Citrix Systems	\$15,040	\$12,300	81.6%	3.7%	0.8%	18.3%	4.6x	4.6x	25.1x	13.4x
Nutanix	\$3,382	\$3,281	32.9%	19.1%	(1.8%)	NM	2.1x	2.2x	NM	NM
Mobile Device Management										
Jamf	\$3,198	\$2,968	50.3%	35.9%	27.3%	NM	8.1x	6.4x	NM	NM

Infrastructure Software Public Market Operational and Valuation Metrics by Sector (cont.)

As of September 30, 2022

\$ in millions

\$ in millions				Revenue Growth		Enterprise Value / Revenue		Enterprise Value / EBITDA		
Company	Enterprise Value	Market Capitalization	% of 52 Week High	LTM	NTM	LTM EBITDA Margin	LTM	NTM	LTM	NTM
Application Performance Management										
Datadog	\$29,140	\$30,002	47.7%	77.9%	47.6%	2.2%	24.4x	16.5x	NM	NM
Dynatrace	\$11,189	\$11,313	49.2%	32.1%	23.8%	13.1%	12.0x	9.7x	91.6x	40.5x
New Relic	\$3,101	\$3,349	38.6%	17.7%	17.6%	NM	3.9x	3.4x	NM	29.3x
Business Process Management										
Pegasystems	\$4,269	\$3,914	33.6%	19.6%	17.3%	NM	3.3x	2.9x	NM	34.8x
Appian	\$3,322	\$3,426	33.7%	25.5%	19.9%	NM	8.4x	7.0x	NM	NM
Rapid Application Development										
DigitalOcean	\$4,132	\$4,223	31.0%	36.3%	32.1%	11.1%	8.9x	6.8x	80.5x	20.4x
Appian	\$3,322	\$3,426	33.7%	25.5%	19.9%	NM	8.4x	7.0x	NM	NM
Progress Software	\$2,404	\$1,983	83.9%	22.1%	6.2%	35.0%	4.1x	3.9x	11.8x	11.0x
C3 AI	\$978	\$1,940	28.3%	38.0%	23.2%	NM	3.9x	3.1x	NM	NM
Data Management										
Snowflake	\$39,412	\$44,233	34.3%	98.4%	59.5%	NM	27.9x	17.5x	NM	NM
Palantir	\$16,308	\$18,563	31.0%	36.7%	28.6%	NM	9.9x	7.7x	NM	27.2x
Splunk	\$16,869	\$14,236	50.1%	23.9%	22.6%	NM	5.9x	4.8x	NM	92.8x
Informatica	\$7,163	\$5,816	51.8%	9.3%	11.7%	16.3%	4.9x	4.4x	29.8x	18.8x
Alteryx	\$3,814	\$3,302	55.7%	13.9%	33.7%	NM	6.6x	5.0x	NM	NM
Domo	\$979	\$938	28.3%	22.9%	21.6%	NM	3.6x	3.0x	NM	NM

Infrastructure Software Public Market Operational and Valuation Metrics by Sector (cont.)

As of September 30, 2022

\$ in millions

\$ in millions				Revenue Growth			Enterprise Value / Revenue		Enterprise Value / EBITDA	
Company	Enterprise Value	Market Capitalization	% of 52 Week High	LTM	NTM	LTM EBITDA Margin	LTM	NTM	LTM	NTM
Enterprise Data Search										
Elastic	\$6,152	\$6,419	35.6%	41.7%	26.0%	NM	7.1x	5.7x	NM	NM
Database System										
MongoDB	\$17,087	\$17,676	44.0%	52.3%	29.3%	NM	17.5x	13.5x	NM	NM
Couchbase	\$539	\$732	31.4%	20.6%	18.6%	NM	4.1x	3.5x	NM	NM
Application Lifecycle Management / Collaboration										
Atlassian	\$47,641	\$47,641	38.8%	32.8%	25.7%	NM	18.3x	14.6x	NM	79.6x
GitLab	\$6,950	\$7,849	38.8%	70.5%	52.8%	NM	24.0x	15.7x	NM	NM
IFrog	\$1,679	\$2,082	43.4%	38.1%	31.4%	NM	7.5x	5.7x	NM	94.7x
PaaS										
Salesforce.com	\$165,087	\$164,215	52.9%	25.0%	18.4%	9.6%	5.9x	5.0x	61.7x	17.8x
IaaS										
Amazon	\$1,161,506	\$1,080,624	56.3%	14.0%	13.6%	11.7%	2.4x	2.1x	20.9x	15.0x
HashiCorp	\$4,091	\$5,428	28.6%	53.3%	28.2%	NM	11.5x	9.0x	NM	NM
Digital / Cloud / Agile Services										
EPAM Systems	\$15,800	\$16,847	40.6%	48.8%	19.3%	17.1%	3.8x	3.2x	22.3x	20.7x
Globant	\$7,060	\$7,269	49.1%	60.0%	31.6%	16.8%	4.9x	3.8x	29.5x	18.4x
Endava	\$4,827	\$4,912	51.2%	43.9%	18.1%	17.9%	6.0x	5.1x	33.7x	21.0x
Thoughtworks	\$4,584	\$4,379	41.0%	39.6%	24.5%	NM	4.0x	3.2x	NM	17.3x
Rackspace	\$5,300	\$1,512	35.3%	10.0%	7.1%	20.7%	1.7x	1.6x	8.4x	7.8x

Infrastructure Software Public Market Operational and Valuation Metrics by Sector (cont.)

As of September 30, 2022

\$ in millions

\$ in millions				Revenue Growth			Enterprise Value / Revenue		Enterprise Value / EBITDA	
Company	Enterprise Value	Market Capitalization	% of 52 Week High	LTM	NTM	LTM EBITDA Margin	LTM	NTM	LTM	NTM
Edge Computing / Web Performance										
Akamai	\$16,591	\$14,641	74.1%	7.5%	5.9%	34.3%	4.7x	4.4x	13.7x	10.4x
Cloudflare	\$14,122	\$14,273	19.7%	52.9%	42.2%	NM	19.3x	13.6x	NM	NM
Data Protection and Backup										
Backblaze	\$101	\$161	14.3%	27.0%	23.5%	NM	1.4x	1.1x	NM	NM
User Experience / Product Management										
Amplitude	\$1,307	\$1,594	16.2%	66.3%	33.2%	NM	7.0x	5.2x	NM	NM
UserTesting	\$571	\$717	31.4%	47.1%	30.2%	NM	3.5x	2.7x	NM	NM
Median	\$5,063	\$5,170	38.8%	32.4%	24.1%	16.8%	5.9x	4.7x	25.1x	20.4x

Cybersecurity Software Public Market Operational and Valuation Metrics by Sector

As of September 30, 2022

\$ in millions

\$ in millions				Revenue Growth		Enterprise Value / Revenue		Enterprise Value / EBITDA		
Company	Enterprise Value	Market Capitalization	% of 52 Week High	LTM	NTM	LTM EBITDA Margin	LTM	NTM	LTM	NTM
Endpoint Protection / Anti-Virus										
Crowdstrike	\$37,752	\$39,118	56.5%	63.8%	46.2%	NM	23.1x	15.8x	NM	91.5x
Check Point Software	\$11,830	\$15,602	81.4%	6.7%	3.7%	40.1%	5.3x	5.1x	13.1x	11.3x
NortonLifeLock	\$14,485	\$12,547	71.0%	9.6%	4.9%	47.3%	5.2x	4.9x	11.0x	9.3x
Trend Micro	\$4,915	\$6,807	0.6%	(8.1%)	6.8%	31.1%	3.3x	3.1x	10.5x	10.7x
SentinelOne	\$4,921	\$6,508	29.7%	118.4%	89.4%	NM	20.0x	10.6x	NM	NM
Enterprise Network Firewall										
Palo Alto Networks	\$49,291	\$49,214	77.1%	29.7%	23.8%	NM	9.5x	7.7x	NM	32.4x
Fortinet	\$44,276	\$45,413	76.1%	31.1%	20.7%	21.5%	11.6x	9.6x	53.9x	34.5x
Check Point Software	\$11,830	\$15,602	81.4%	6.7%	3.7%	40.1%	5.3x	5.1x	13.1x	11.3x
Web Security / Secure Web Gateway										
Zscaler	\$20,557	\$21,210	39.8%	61.1%	41.1%	NM	21.2x	15.0x	NM	NM
Identity and Access Management										
Okta	\$14,163	\$14,263	32.7%	62.0%	32.7%	NM	9.7x	7.3x	NM	NM
CyberArk Software	\$4,473	\$5,129	63.4%	12.8%	15.6%	NM	8.2x	7.1x	NM	NM
SailPoint Technologies	\$5,671	\$3,583	0.6%	24.6%	(2.3%)	15.9%	0.4x	0.4x	2.6x	4.2x
ForgeRock	\$1,492	\$1,805	43.8%	19.6%	20.7%	NM	7.9x	6.6x	NM	NM
Ping	\$1,644	\$1,547	59.7%	13.8%	14.4%	NM	5.3x	4.7x	NM	NM
Privileged Access Management										
CyberArk Software	\$4,473	\$5,129	63.4%	12.8%	15.6%	NM	8.2x	7.1x	NM	NM

Cybersecurity Software Public Market Operational and Valuation Metrics by Sector (cont.)

As of September 30, 2022

\$ in millions

\$ in millions				Revenue Growth			Enterprise Value / Revenue		Enterprise Value / EBITDA	
Company	Enterprise Value	Market Capitalization	% of 52 Week High	LTM	NTM	LTM EBITDA Margin	LTM	NTM	LTM	NTM
Vulnerability Management										
Tenable	\$4,919	\$5,022	71.4%	26.4%	15.9%	NM	8.0x	6.9x	NM	70.7x
Qualys	\$4,404	\$4,899	84.0%	16.6%	12.8%	36.4%	9.8x	8.7x	27.0x	22.5x
Rapid7	\$4,576	\$3,892	46.1%	33.4%	17.7%	NM	7.4x	6.3x	NM	NM
Managed Security Services										
SecureWorks	\$757	\$922	40.4%	(7.6%)	(6.4%)	NM	1.5x	1.6x	NM	NM
Unified Threat Management / SMB										
Fortinet	\$44,276	\$45,413	76.1%	31.1%	20.7%	21.5%	11.6x	9.6x	53.9x	34.5x
Web Application Firewall										
Akamai	\$16,591	\$14,641	74.1%	7.1%	4.4%	33.8%	4.6x	4.4x	13.7x	10.4x
Cloudflare	\$14,122	\$14,273	19.7%	53.2%	27.8%	NM	17.4x	13.6x	NM	NM
Median	\$8,751	\$9,677	51.3%	25.5%	16.8%	33.8%	8.1x	7.0x	13.1x	16.9x

Recent Sector Transactions Detail

Closed Date	Target	Acquirer	Business Description	Enterprise Value (\$M)	Implied EV / Revenue	Implied EV / EBITDA
Pending	Era Software	ServiceNow	Provider of a time-series database built for machine learning and anomaly detection	*	*	*
Pending	NetSPI	KKR & Co	Provider of threat and vulnerability management software and managed services	*	*	*
Pending	Malwarebytes	Vector Capital	Provider of malware prevention and remediation solutions	*	*	*
Pending	Reposify	CrowdStrike Holdings	Provider of an external surface management solution, which identifies, manages, and defends an organization's digital assets	*	*	*
Pending	KnowBe4	Vista Equity Partners Management	Provider of a SaaS-based security awareness platform	\$4,207	14.5x	NM
Pending	Hornetsecurity	TA Associates and PSG Equity	Provider of cloud-based security solutions	*	*	*
Pending	Micro Focus	Open Text Corporation	Provider of a broad set of technology for security, IT operations, applications delivery, governance, modernization, and analytics	\$5,880	2.1x	8.9x
Pending	Ping Identity	Thoma Bravo	Provider of multi-factor authentication, single sign-on, access management, API security, directory, and data governance capabilities	\$2,796	9.1x	NM
Pending	Zendesk	Hellman & Friedman and Permira	Provider of customer service software and sales CRM	\$9,891	6.9x	NM
10/04/22	Blue Hexagon	Qualys	Provider of cloud detection and response solutions	*	*	*
10/04/22	Kapstone	iC Consult	Provider of cybersecurity, security, consulting, and training services	*	*	*
09/28/22	ReleaseIQ.io	CloudBees	Provider of a devops platform for stream management, delivery, and deployment	*	*	*
09/23/22	Mateso	Netwrix Corporation	Provider of password management software solutions	*	*	*
09/20/22	LogicHub	Devo	Provider of a security intelligence automation platform that automates the intelligence, context, and intuition of the cyber analysts	*	*	*
09/19/22	Salt Security	CrowdStrike Holdings	Provider of an application programming interface (API) security platform	*	*	*
09/14/22	7pace	Appfire Technologies	Provider of a time-tracking SaaS solution for professional software developers in enterprises	*	*	*
09/13/22	Hitachi ID Systems	Volaris Group	Provider of identity and access management software	*	*	*
09/12/22	Mandiant	Google	Provider of a threat intelligence and cybersecurity platform	\$5,357	11.1x	NM

Recent Sector Transactions Detail (cont.)

Closed Date	Target	Acquirer	Business Description	Enterprise Value (\$M)	Implied EV / Revenue	Implied EV / EBITDA
09/12/22	Avast	NortonLifeLock	Provider of computer and network security solutions	\$7,662	8.2x	15.6x
09/08/22	Cloudways	DigitalOcean	Provider of managed cloud hosting services	\$350	*	*
09/08/22	Gravitee.io	The Riverside Company	Provider of an open source API platform enabling businesses to develop, secure, publish, and monitor APIs	*	*	*
09/08/22	SaaS Alerts	Insight Venture Management	Provider of cross-platform applications for security management to managed service providers	*	*	*
09/06/22	Bitwarden	Battery Ventures and PSG Equity	Provider of a password management solution to store and share sensitive data from any device	*	*	*
09/01/22	Drawbridge Partners	Francisco Partners	Provider of cybersecurity software intended for the alternative investment industry	*	*	*
09/01/22	Outflank	HelpSystems	Provider of IT security solutions offering security testing and red teaming	*	*	*
08/29/22	CUATROi	Cerberus Cyber Sentinel Corporation	Provider of managed services and cybersecurity solutions to organizations	*	*	*
08/11/22	Dundas Data Visualization	Global Software	Provider of data visualization solutions to help companies to visualize their data, spot key trends, and make business decisions	*	*	*
08/09/22	AppOmni	Cisco Investments	Provider of a cloud suite platform for enterprises to protect cloud data and security for SaaS applications	*	*	*
08/04/22	Seekret Software Security	Datadog	Provider of an API observability software as a service	*	*	*
07/31/22	ShiftRight	Zscaler	Provider of security workflow automation technology	*	*	*
07/29/22	Reinfer	UiPath	Provider of AI-based enterprise intelligence system solutions	\$52	*	*
07/28/22	Retool	Sequoia Capital Operations	Provider of a development platform intended to help build custom business tools	*	*	*
07/27/22	CrashPlan Group	Mill Point Capital	Provider of cloud-based endpoint data backup and recovery software	*	*	*
07/13/22	Pineapple Technology	Index Ventures	Provider of an online platform that creates, manages, and resolves incidents directly in slack	*	*	*
07/12/22	Outpost24	Vitruvian Partners	Provider of network security solutions that help customers manage security risk and meet compliance	*	*	*
07/08/22	Castellan Solutions	Riskconnect	Provider of business continuity management software	*	*	*