



# Mufson Howe Hunter

INVESTMENT BANKERS FOR GROWTH

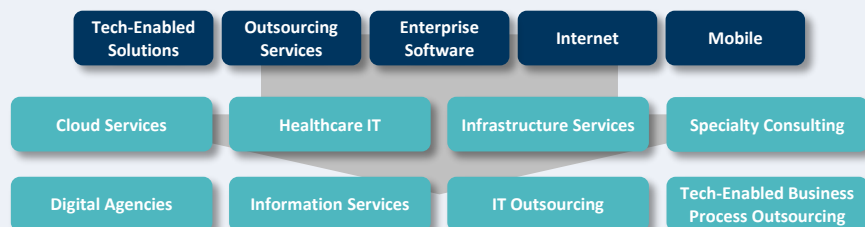
*TECHNOLOGY SERVICES MONTHLY*

*Cloud Infrastructure*

*September 2018*

## Welcome to the MHH Technology Services Newsletter!

Welcome to the September edition of the Mufson Howe Hunter Technology Services Monthly. This month, we highlight key themes and growth drivers in the Cloud Infrastructure / Cloud Services space. Each month, our team aims to provide you with a newsletter that contains thought-provoking content and analysis, as well as updates on macroeconomic themes, equity capital market performance, private capital market trends and noteworthy M&A activity—all of which is relevant to our core industry sectors:



We hope you find this information valuable, and we welcome any comments or suggestions.

Sincerely,

Brandon K. Eck  
Managing Director, Head of Technology Services

## What we are reading...



- [US Congressman Drafts Bills to Aid Blockchain Development](#)
- [VA will open bidding for VistA EHR support, maintenance](#)
- [Amazon Web Services is in a league of its own for cloud revenue, report says](#)
- [Next-gen cloud computing: How healthcare can prepare for the future](#)

## Select 2018 Franchise Themes



**Digital Transformation & Advisory:** Business processes will continue to migrate from legacy systems to modern technology (cloud, edge computing, analytics, IoT, blockchain, AI, etc.). We expect to see continued growth in the digital transformation consulting (DTC) channel. Trusted advisors with the ability to sell across senior business stakeholders within an organization (CMO, CRO, CCO, COO, CIO) and who provide thought leadership, commercial insights, targeted research and proprietary IP will be leaders in the category. For additional insight see our [November 2017 TSM](#).



**Regulation Technology:** The rapid proliferation of new and increasingly complex regulations will continue to drive demand for RegTech solutions that provide operational efficiencies and cost benefits when applied to compliance and risk management practices. Increased regulation isn't just a temporary challenge for global financial institutions – it's the new reality. Financial services firms' average costs to meet their obligations are \$60 million; some are spending up to \$500 million on compliance with KYC and Customer Due Diligence (Thomson Reuters). For additional insight see our [August 2017 TSM](#).



**Healthcare IT:** The sweeping paradigm shift toward population health management and value-based reimbursement models – will continue to drive robust demand for healthcare IT products and services. Consulting Services, Data Analytics and Patient Engagement Technology will comprise a growing portion of the overall HCIT market, reaching an estimated \$74 billion in annual spending by 2021 (Markets and Markets and MHH calculations). Service providers and solutions that improve interoperability among myriad disparate systems will be in high demand for many years to come. For additional insight see our [May 2017](#) and [September 2017 TSM](#).



**IoT-Optimized Infrastructure Services:** "Connected things" will streamline vendor operational models while reducing customer costs. IoT will introduce tons of useful data to the cloud that needs to be captured and effectively managed. IaaS and PaaS companies will be a direct beneficiary of this trend. Cisco expects database, analytics and IoT workloads to account for 22% of total workloads by 2020 (Cisco, 2016). For additional insight, see our [June 2017 TSM](#).



**Blockchain in Financial Services & Beyond:** Although most widely associated with cryptocurrencies, some of the largest financial services firms are exploring using blockchain technology to improve high-risk and/or time-consuming operations, including cross-border payments, AML & KYC compliance, IAM security protocols and smart contracts. We also expect to see further adoption across a variety of other industries, including healthcare, automotive, manufacturing and retail, among others. For additional insight see our [December 2017 TSM](#).

# TECHNOLOGY SERVICES PRACTICE OVERVIEW

The Mufson Howe Hunter Technology Services Group serves growth-oriented, rapidly scalable businesses that leverage proprietary and enabling technologies to address the evolving needs of modern enterprise customers. We apply deep industry expertise and broad transaction experience to provide thoughtful, tailored advice and solutions for our clients. **Our clients turn to us for outstanding M&A advisory and capital-raising execution.**

## Senior Banking Team



**Brandon Eck**  
Managing Director,  
Head of Technology Services

215.399.5411 | beck@mhhco.com

### Prior Experience:

- Managing Director, Head of Technology & Services, Janney Montgomery Scott
- Principal, Catalyst Securities
- Principal, RCW Mirus

### Education:

- Gettysburg College (BA)

18+ Years of  
Experience

60+ Transactions  
Completed



**Andrew Wilson**  
Vice President,  
Technology Services

215.399.5406 | awilson@mhhco.com

### Prior Experience:

- Senior Associate, Technology & Services, Janney Montgomery Scott
- Associate, TMT, J.P. Morgan
- Attorney, M&A, Wilson Sonsini Goodrich & Rosati

### Education:

- Duke University (JD, MBA)
- U. North Carolina, Chapel Hill (BA)

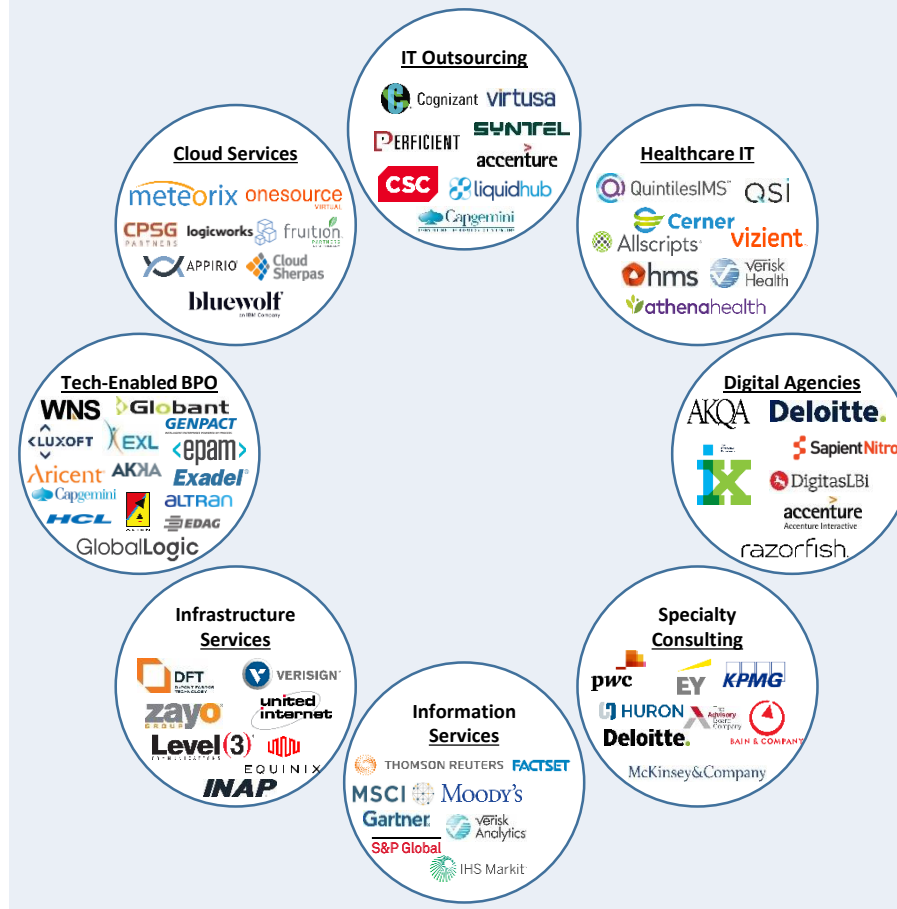
8+ Years of  
Experience

20+ Transactions  
Completed

## Sector Coverage

# Mufson Howe Hunter

- Sell-side Advisory
- Private Placements
- Financial Advisory
- Buy-side Assignments
- Recapitalizations
- Fairness Opinions



## Business Model Coverage

Tech-Enabled Solutions

Outsourcing Services

Enterprise Software

Internet

Mobile

# Cloud Infrastructure

**What is Cloud Infrastructure?** Cloud computing refers to the delivery of on-demand computing functionality (processing power, data storage, applications, etc.) using a network of remote servers hosted on the internet rather than an on-premise server or personal computer. **Cloud infrastructure enables cloud computing, providing on-demand services or products delivered through an “Infrastructure as a Service” (IaaS) model.** In contrast with on-premise systems, a **cloud infrastructure replaces physical servers, PCs, network switches and storage capacity with virtual, cloud-based equivalents.**

**What is Cloud Services?** As reflected in the graphic below, cloud services is commonly conceived as a “stack” consisting of three distinct but highly interrelated categories: Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS).

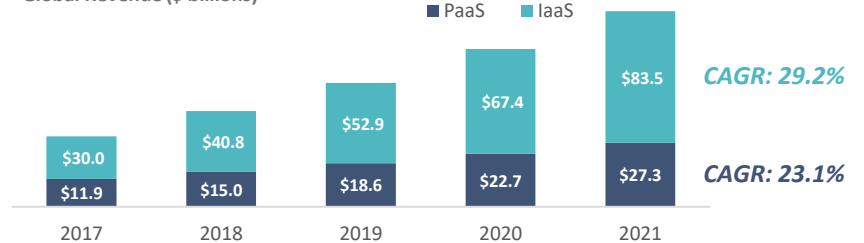
**What are the benefits and/or drawbacks of a cloud-based infrastructure?**

Compared to on-premise systems, **cloud-based environments are typically less capital-intensive, easier and cheaper to maintain, more flexible to configure and more rapidly scalable.** Although enterprise clients showed early hesitation due to security concerns, that sentiment is rapidly changing, and a recent survey indicated that **63% of IT professionals believe the public cloud is more secure or equally secure as their existing data center.**<sup>1</sup>

**Who are the key players?** The leading cloud providers – **Amazon Web Services (“AWS”) and Microsoft Azure – have a combined 70% share of the IaaS market.**<sup>2</sup> AWS and Azure are also significant players in PaaS and, to some extent, SaaS. However, the PaaS and SaaS markets are much more diversified than the IaaS segment.

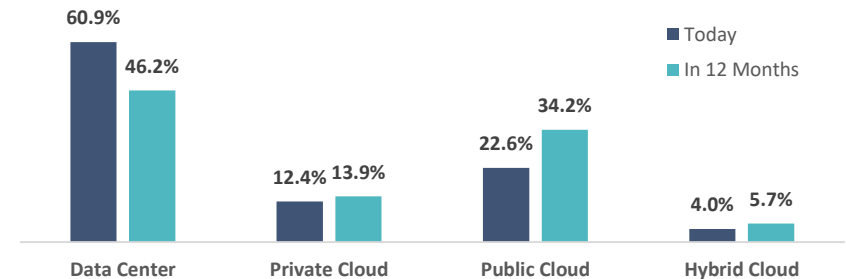
## The already large PaaS and IaaS markets are poised for tremendous growth<sup>3</sup>

Global Revenue (\$ billions)



## Enterprises are transitioning from heavy reliance on data centers to more cloud-based environments<sup>4</sup>

Application Workloads – Percentage deployed by infrastructure type



## Understanding the Cloud Computing Stack – IaaS, PaaS and SaaS

Although IaaS, PaaS and SaaS each constitute a distinct component of the cloud computing stack, they are highly interdependent, and several major providers participate throughout the stack.

SaaS

SaaS applications, designed for end-users (consumer and enterprise), are increasingly displacing on-premise software applications. In contrast to IaaS/PaaS, the SaaS market is widely diversified, with thousands of providers.



DocuSign

+tableau

zendesk

cvent

workday

Amarin SOFTWARE

PaaS

PaaS comprises tools and services that facilitate efficient deployment of SaaS applications – e.g., application development, quality assurance, hosting and maintenance.



IaaS

IaaS is the hardware and software that powers it all – servers, storage, networks and operating systems.



# Cloud Infrastructure

## How the leaders “stack” up

### Analyst Insights

*“AWS remains the giant but it seems clear that Microsoft Azure is gaining ground.”* (Deutsche Bank, Aug 2018)

*“Microsoft has, within a few years, taken Azure from a virtually unknown business to a major driver of growth, expanding from IaaS/PaaS into related services – e.g., AI, machine learning, and platform SaaS services”* (Bernstein, Sep 2018)

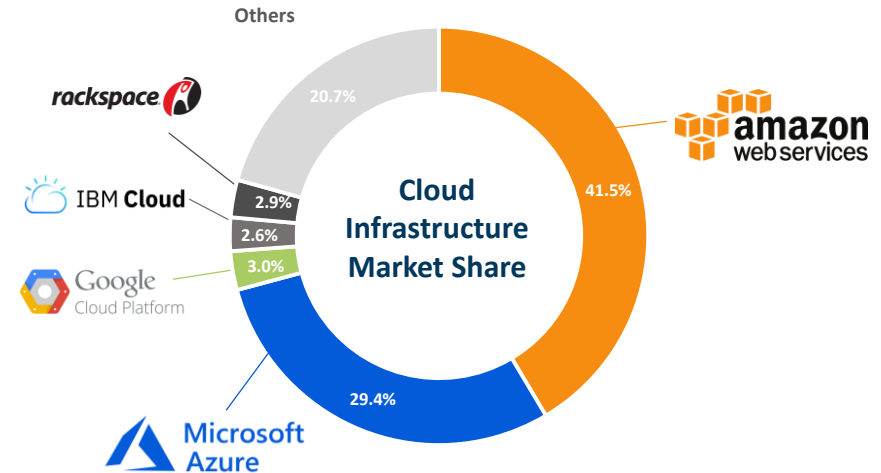
### Customer Commentary<sup>1</sup>

*“We are evaluating Azure and AWS. Unsure who we will go with. **AWS seems better at storage and Azure better with analytics.** No clear winner yet.”*

*“If you are a MSFT shop it makes sense to run in Azure.”*

*“Our company is using Azure over AWS... However, we’re finding that some of the security functionality is not as great as we would have hoped.”*

## AWS and Azure dominate the cloud infrastructure market<sup>2</sup>



## Recent Relevant Investments<sup>3</sup>

Investor	Target	Description
MARCH CAPITAL PARTNERS	IoTium Sep-2018	<ul style="list-style-type: none"> <li>Early Stage VC</li> <li>Developer of a secure Edge-Cloud infrastructure solution</li> </ul>
THIRD POINT VENTURES	packet Sep-2018	<ul style="list-style-type: none"> <li>Early Stage VC</li> <li>Provider of a cloud hosting platform designed to automate server configurations</li> </ul>
5G networks	HOSTWORKS Aug-2018	<ul style="list-style-type: none"> <li>Merger/Acquisition</li> <li>Provider of managed cloud hosting services intended to create innovative IT tools</li> </ul>
ANDREESSEN HOROWITZ	CAZENA Jul-2018	<ul style="list-style-type: none"> <li>Early Stage VC</li> <li>Provider of a fully-managed big data as a service platform</li> </ul>
Google Cloud	CRASK May-2018	<ul style="list-style-type: none"> <li>Merger/Acquisition</li> <li>Provider of a platform designed to offer big data services</li> </ul>
Google Cloud	VELOSTRATA May-2018	<ul style="list-style-type: none"> <li>Merger/Acquisition</li> <li>Developer of a cloud workload mobility platform</li> </ul>
Azure	AVERE Jan-2018	<ul style="list-style-type: none"> <li>Merger/Acquisition</li> <li>Developer of demand-driven storage products</li> </ul>
aws	sqrll Target. Hunt. Disrupt. Jan-2018	<ul style="list-style-type: none"> <li>Merger/Acquisition</li> <li>Developer of a big data platform designed to help discover threats</li> </ul>

<sup>1</sup> Deutsche Bank, Aug 2018 | <sup>2</sup> McAfee, Custom Applications and IaaS Trends (2017) | <sup>3</sup> Pitchbook

# U.S. ECONOMIC INDICATORS

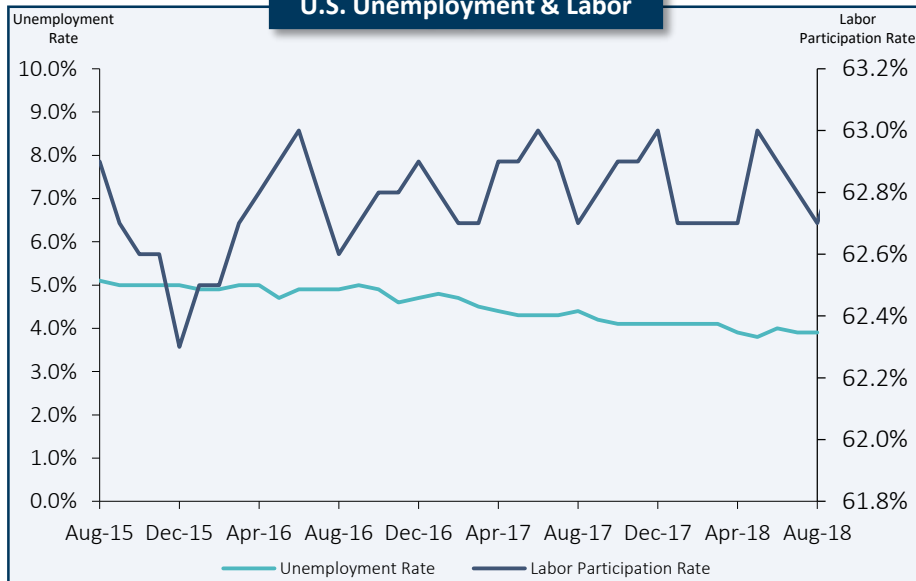
## U.S. Market Indices



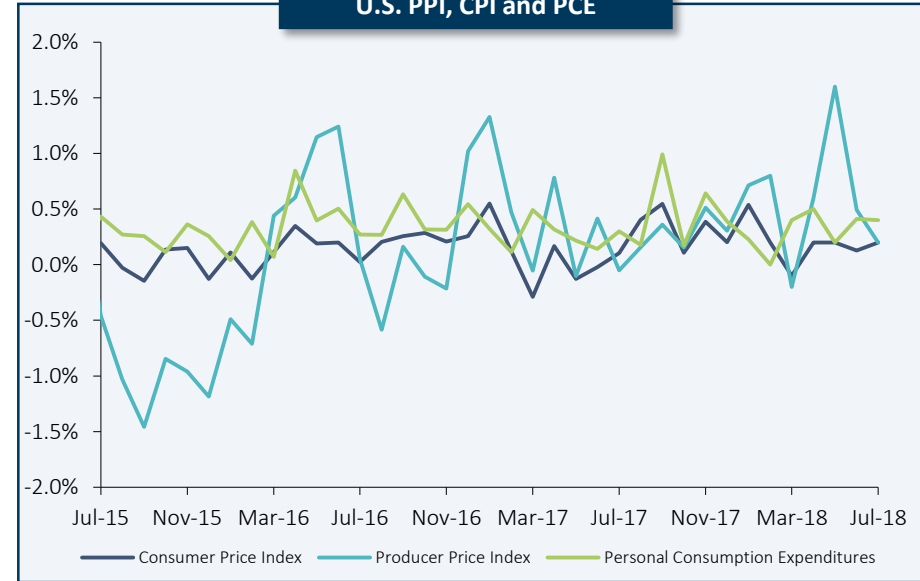
## 10-Year Treasury Rate



## U.S. Unemployment & Labor







## U.S. PPI, CPI and PCE



Sources: CapitalIQ, Federal Reserve Bank of St. Louis

# U.S. TECH SERVICES MIDDLE-MARKET PRIVATE EQUITY: BUY-OUT ACTIVITY

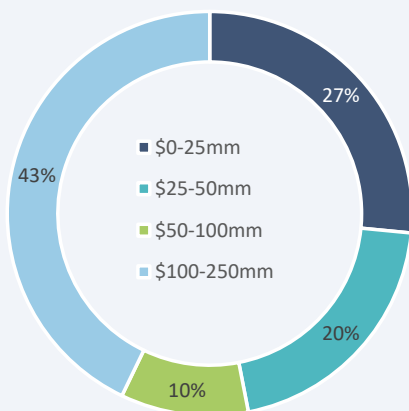
## Select August 2018 Buy-Outs\*\*

Company	Investor	Date	Sector
 <b>jsahealth</b> TELEPSYCHIATRY	 <b>CRG</b>	Aug 20	Healthcare IT
 <b>Centrify</b>	<b>THOMA BRAVO</b>	Aug 15	Infrastructure Services
 <b>AnalyticsPros</b>	<b>ABRY</b> PARTNERS	Aug 14	IT Outsourcing
 <b>DISCOVERY</b> HEALTH PARTNERS	 <b>CARRICK</b> investing more than capital	Aug 9	Healthcare IT
 <b>calnet</b> TECHNOLOGY GROUP	<b>ABRY</b> PARTNERS	Aug 7	IT Outsourcing
 <b>SRAX</b>	 <b>HALYARD</b> CAPITAL	Aug 6	Healthcare IT

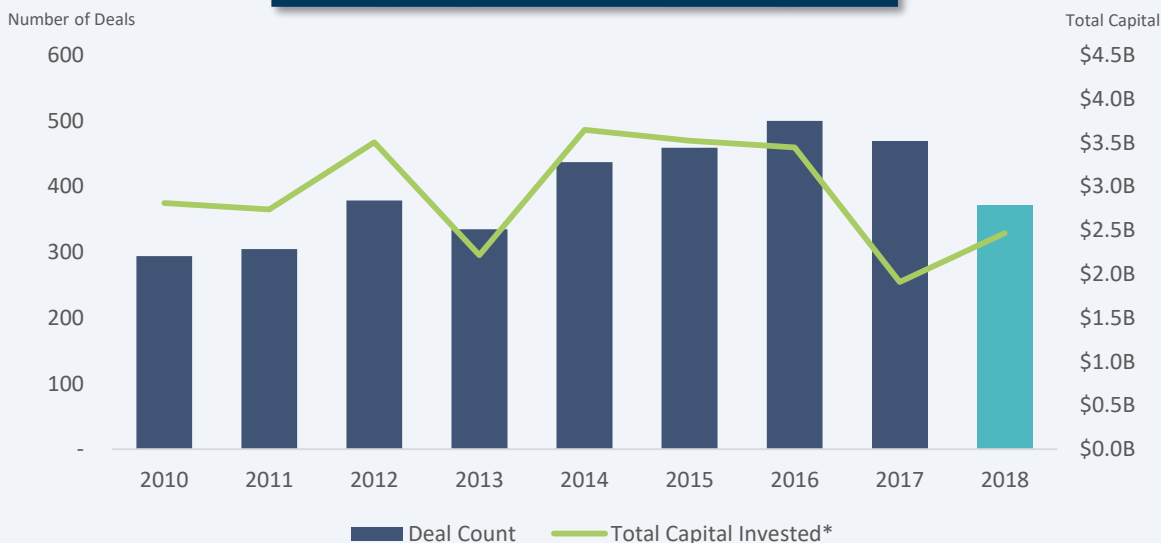
## PE Buy-Outs, Trailing 8 Quarters, as of August 31



## PE Buy-Outs, by Deal Size



## PE Buy-Outs, Historical Annual, as of August 31



Source: Pitchbook

\*For deals with announced transaction value

\*\*Please contact the MHH Technology Services Group directly for any information regarding valuation and deal size

# U.S. TECH SERVICES MIDDLE-MARKET PRIVATE EQUITY: MINORITY ACTIVITY

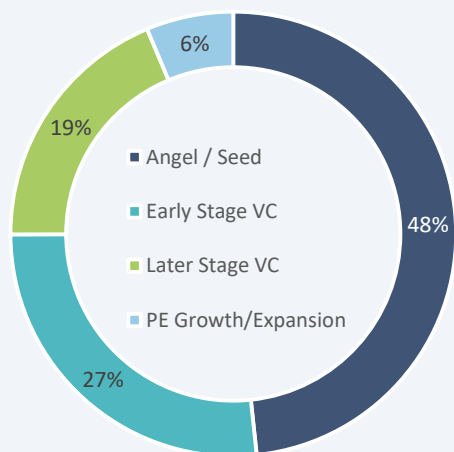
## Select August 2018 Minority Deals\*\*

Company	Stage	Date	Sector
<b>TEMPUS</b>	Late Stage VC	Aug 23	Healthcare IT
<b>AKILI</b>	Late Stage VC	Aug 9	Healthcare IT
<b>Summit Technology Consulting Group</b>	Angel	Aug 9	IT Outsourcing
<b>CAPSULE</b>	Early Stage VC	Aug 8	Healthcare IT
<b>ANALYTICA</b> <small>Data Science in Motion</small>	Angel	Aug 8	Information Services
<b>MDLIVE</b>	Late Stage VC	Aug 1	Healthcare IT

## PE Minority, Trailing 8 Quarters, as of August 31



## PE Minority, by Stage



## PE Minority, Historical Annual, as of August 31



Source: Pitchbook

\*For deals with announced transaction value

\*\*Please contact the MHH Technology Services Group directly for any information regarding valuation, deal size, and investors

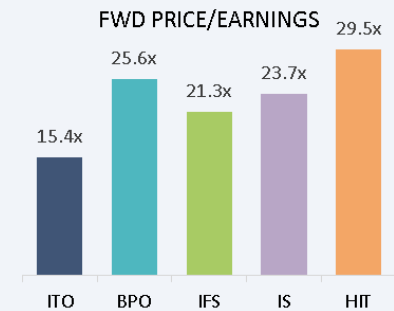
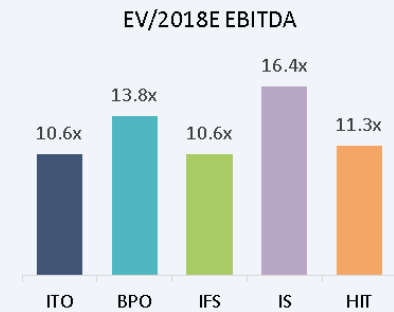
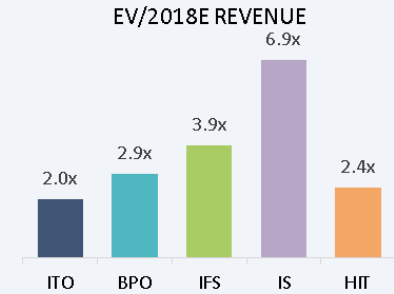
# VALUATION & PERFORMANCE METRICS

ITO	<b>IT Outsourcing:</b> technology services and consulting solutions, including engineering, application development, knowledge management and business process management
BPO	<b>Business Process Outsourcing:</b> services for administering and managing select technology-enabled business processes, including outsourced product development, finance and accounting, human resources, research and analytics, and other industry-specific processes
IFS	<b>Infrastructure Services:</b> providers of managed, hosting and consulting services around planning, designing, implementing and managing mission-critical IT infrastructure
IS	<b>Information Services:</b> providers of independent rating, benchmarking, research and data analytic services
HIT	<b>Healthcare IT:</b> software and technology-related services focused on the design, development, creation, use and maintenance of information systems for the healthcare industry

## Sector Indices Performance, as of August 31, 2018

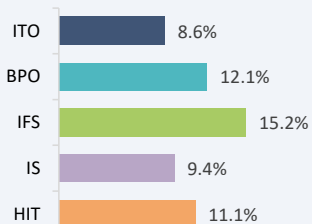


## Median Valuation Metrics

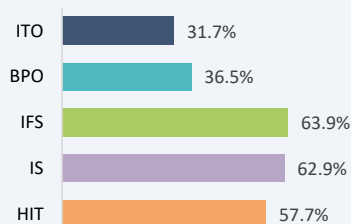


## Median Operational KPIs

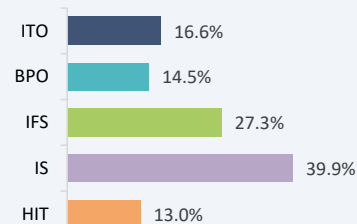
### 2018E REVENUE GROWTH



### LTM GROSS MARGIN



### LTM EBITDA MARGIN



# IT OUTSOURCING

## Valuation Metrics

(\$ in millions)

Company	Market Cap <sup>(1)</sup>	Operating Metrics						Valuation Multiples					
		Revenue		LTM Gross Margin	EBITDA <sup>(2)</sup>		LTM EBITDA Margin	EV / Revenue			EV / EBITDA		
		2018E	2019E		2018E	2019E		LTM	2018E	2019E	LTM	2018E	2019E
Accenture plc (ACN)	\$99,290	\$38,945	\$41,604	31.7%	\$6,731	\$7,281	16.3%	2.7x	2.5x	2.3x	14.4 x	14.3 x	13.2 x
Cognizant Technology Solutions Corporation (CTSH)	\$48,232	\$16,226	\$17,662	38.2%	\$3,459	\$3,947	20.5%	3.0x	2.7x	2.5x	13.5 x	12.7 x	11.2 x
Infosys Limited (INFY)	\$39,071	\$11,334	\$12,183	35.0%	\$2,991	\$3,251	26.9%	3.3x	3.1x	2.9x	12.3 x	11.9 x	10.9 x
DXC Technology Company (DXC)	\$29,294	\$24,201	\$23,951	25.4%	\$5,057	\$5,168	15.7%	1.8x	1.5x	1.5x	10.8 x	7.0 x	6.8 x
HCL Technologies Limited (HCLTECH)	\$20,070	\$8,272	\$9,073	33.9%	\$1,866	\$2,032	22.6%	2.5x	2.3x	2.1x	11.2 x	10.4 x	9.5 x
CGI Group Inc. (GIB.A)	\$16,608	\$8,864	\$9,146	29.8%	\$1,623	\$1,699	16.6%	2.0x	2.0x	2.0x	11.5 x	11.0 x	10.5 x
Wipro Limited (BSE:507685)	\$20,198	\$8,737	\$9,276	29.0%	\$1,792	\$1,834	19.7%	2.1x	2.0x	1.9x	10.4 x	9.9 x	9.7 x
Atos SE (ATO)	\$13,925	\$15,645	\$16,035	14.5%	\$2,195	\$2,289	12.6%	0.9x	0.9x	0.9x	7.0 x	6.5 x	6.2 x
Syntel, Inc. (SYNT)	\$2,228	\$932	\$952	38.0%	\$233	\$242	26.9%	2.7x	2.6x	2.6x	9.6 x	10.6 x	10.2 x
Virtusa Corporation (VRTU)	\$1,404	\$1,154	\$1,255	28.7%	\$95	\$118	6.9%	1.5x	1.3x	1.2x	15.7 x	15.2 x	12.2 x
Perficient, Inc. (PRFT)	\$680	\$482	\$504	34.2%	\$77	\$83	11.3%	1.6x	1.5x	1.5x	10.9 x	9.7 x	8.9 x
Mean	\$26,455	\$12,254	\$12,876	30.7%	\$2,375	\$2,540	17.8%	2.2x	2.0x	1.9x	11.6x	10.8x	9.9x
Median	\$20,070	\$8,864	\$9,276	31.7%	\$1,866	\$2,032	16.6%	2.1x	2.0x	2.0x	11.2x	10.6x	10.2x

NA = Not Available; NM = Not Meaningful; LTM = Latest Twelve Months

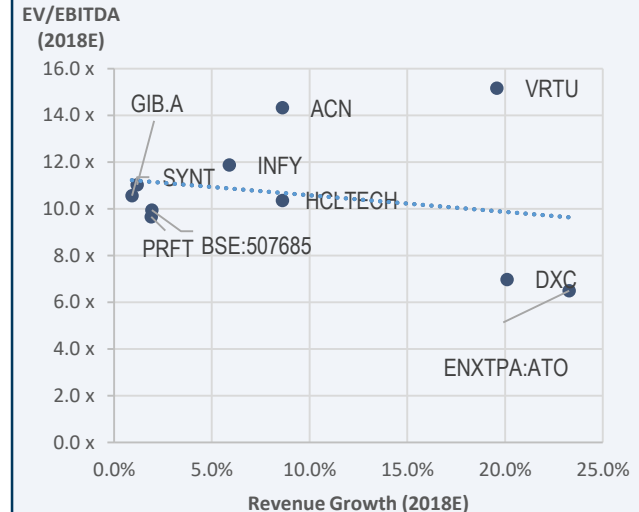
‡ = excluded from Mean and Median calculations

Source: Public Filings, Press Releases and Published Research Reports

(1) As of close August 31, 2018.

(2) Excludes non-recurring, discontinued operations and stock-based compensation

## Relative Valuation

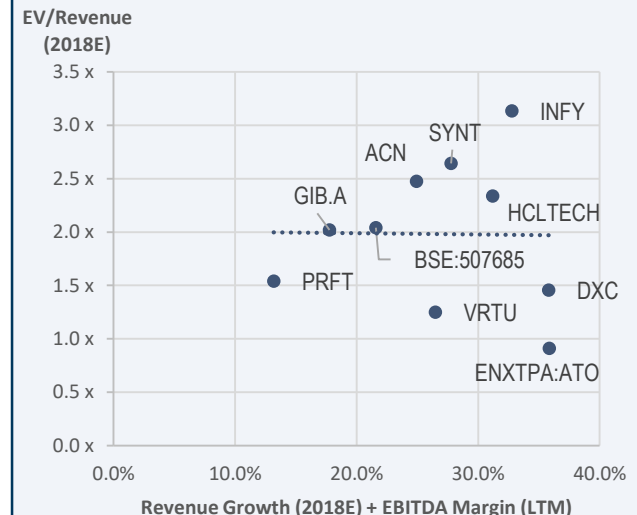


## Select August 2018 Precedent Transactions\*

Announced	Acquirer	Target	Description
August 27	CLPS Global IT Services	infogain SOLUTIONS	Provides IT consulting services.
August 23	Cognizant	SAASFOCUS	Designs, develops and implements products.
August 9	accenture	pillar	Provides IT consulting services.
August 9	accenture	equiL1nd mind	Provides engineering and product development consultancy.
August 7	LUXOFT	objective software consulting solutions	Provides strategic consulting and custom software development services.

Source: CapitalIQ

\*Please contact the MHH Technology Services Group directly for any information regarding valuation and deal size



# BUSINESS PROCESS OUTSOURCING

## Valuation Metrics

(\$ in millions)

Company	Market Cap <sup>(1)</sup>	Operating Metrics						Valuation Multiples					
		Revenue		LTM Gross Margin	EBITDA <sup>(2)</sup>		LTM EBITDA Margin	EV / Revenue			EV / EBITDA		
		2018E	2019E		2018E	2019E		LTM	2018E	2019E	LTM	2018E	2019E
Automatic Data Processing, Inc. (ADP)	\$52,341	\$13,723	\$14,555	42.8%	\$2,956	\$3,218	21.3%	4.0x	3.8x	3.6x	17.9 x	17.8 x	16.3 x
Genpact Limited (G)	\$6,126	\$2,975	\$3,210	37.8%	\$494	\$542	14.9%	2.4x	2.3x	2.1x	15.0 x	13.8 x	12.6 x
EPAM Systems, Inc. (EPAM)	\$6,100	\$1,847	\$2,243	36.0%	\$326	\$405	14.5%	3.6x	3.0x	2.5x	20.0 x	17.0 x	13.7 x
WNS (Holdings) Limited (WNS)	\$2,468	\$801	\$885	33.6%	\$172	\$204	14.5%	3.1x	2.9x	2.6x	16.7 x	13.6 x	11.5 x
ExlService Holdings, Inc. (EXLS)	\$1,997	\$847	\$919	34.5%	\$150	\$167	14.4%	2.3x	2.1x	2.0x	13.3 x	11.9 x	10.7 x
Globant S.A. (GLOB)	\$1,636	\$508	\$608	36.5%	\$86	\$104	13.6%	3.6x	3.1x	2.6x	20.5 x	18.4 x	15.2 x
Luxoft Holding, Inc. (LXFT)	\$1,364	\$995	\$1,139	37.5%	\$152	\$191	10.6%	1.5x	1.3x	1.1x	10.5 x	8.5 x	6.8 x
Mean	\$10,290	\$3,099	\$3,365	37.0%	\$620	\$690	14.8%	2.9x	2.7x	2.4x	16.3x	14.4x	12.4x
Median	\$2,468	\$995	\$1,139	36.5%	\$172	\$204	14.5%	3.1x	2.9x	2.5x	16.7x	13.8x	12.6x

NA = Not Available; NM = Not Meaningful; LTM = Latest Twelve Months

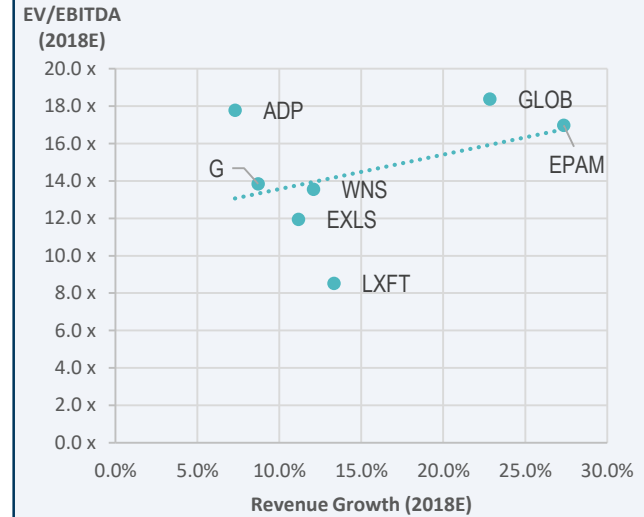
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Source: Public Filings, Press Releases and Published Research Reports

(1) As of close August 31, 2018.

(2) Excludes non-recurring, discontinued operations and stock-based compensation

## Relative Valuation

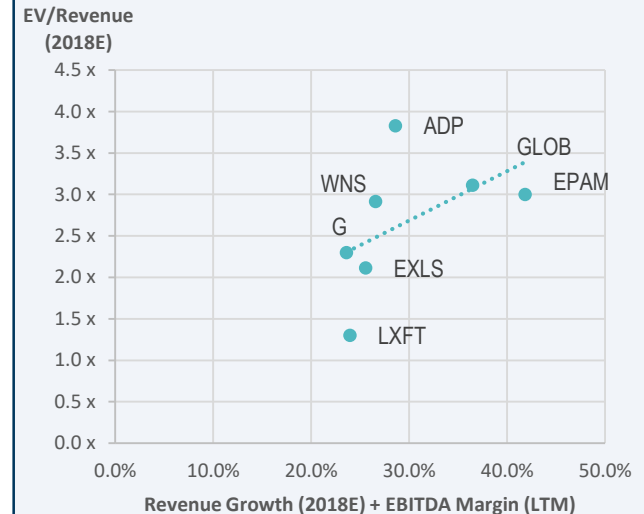


## Select August 2018 Precedent Transactions\*

Announced	Acquirer	Target	Description
August 29	<b>CONTUS</b> Technology et IT's best	<b>PROMISE</b> GRUPA APN PROMISE	Provides sales and delivery of information technology (IT) solutions.
August 20	<b>Immedion</b>	<b>intégral</b> Solutions Group	Provides services to design, integrate, and manage information technology (IT) systems.
August 15	<b>CLEMINGER BBDO</b>	<b>LEVO</b>	Provides transformation and delivery consultancy.
August 7	<b>ADT Cybersecurity</b>	<b>Secure Designs, Inc.</b> Managed Internet Security Solutions	Provides managed security products and services to the small to mid-size business segments.
August 1	<b>hp</b>	<b>APOGEE</b>	Provides managed services of print, document, and process technology.

Source: CapitalIQ

\*Please contact the MHH Technology Services Group directly for any information regarding valuation and deal size



# INFRASTRUCTURE SERVICES

## Valuation Metrics

(\$ in millions)

Company	Market Cap <sup>(1)</sup>	Operating Metrics						Valuation Multiples					
		Revenue		LTM Gross Margin	EBITDA <sup>(2)</sup>		LTM EBITDA Margin	EV / Revenue			EV / EBITDA		
		2018E	2019E		2018E	2019E		LTM	2018E	2019E	LTM	2018E	2019E
Equinix, Inc. (REIT) (EQIX)	\$31,065	\$5,043	\$5,556	49.8%	\$2,399	\$2,694	43.4%	9.1x	7.9x	7.2x	19.2 x	16.6 x	14.7 x
United Internet AG (UTDI)	\$13,611	\$6,223	\$6,630	35.3%	\$1,510	\$1,687	22.0%	3.3x	2.6x	2.4x	14.8 x	10.6 x	9.5 x
Zayo Group Holdings, Inc. (ZAYO)	\$8,893	\$2,660	\$2,758	63.9%	\$1,349	\$1,434	45.8%	5.7x	5.4x	5.2x	11.5 x	10.6 x	9.9 x
VeriSign, Inc. (VRSN)	\$11,268	\$1,208	\$1,252	83.4%	\$858	\$898	65.0%	9.7x	9.3x	9.0x	13.9 x	13.1 x	12.5 x
GoDaddy Inc. (GDDY)	\$8,011	\$2,599	\$2,887	65.3%	\$714	\$825	13.1%	4.5x	3.9x	3.5x	27.5 x	14.2 x	12.3 x
Wix.com Ltd. (WIX)	\$3,412	\$594	\$743	83.7%	\$106	\$166	-10.4%	7.5x	5.4x	4.3x	NM	30.0 x	19.1 x
Endurance International Group Holdings, Inc. (EIGI)	\$1,034	\$1,154	\$1,169	50.6%	\$332	\$346	24.0%	2.4x	2.5x	2.5x	8.4 x	8.7 x	8.3 x
Web.com Group, Inc. (WEB)	\$770	\$762	\$791	68.4%	\$192	\$208	20.0%	1.9x	1.8x	1.8x	8.1 x	7.3 x	6.7 x
Interap Corporation (INAP)	\$257	\$324	\$342	53.0%	\$111	\$119	30.6%	2.7x	2.3x	2.2x	8.5 x	6.8 x	6.3 x
Mean	\$8,702	\$2,285	\$2,459	61.5%	\$841	\$931	29.2%	5.2x	4.6x	4.2x	14.0x	13.1x	11.1x
Median	\$8,011	\$1,208	\$1,252	63.9%	\$714	\$825	27.3%	4.5x	3.9x	3.5x	12.7x	10.6x	9.9x

NA = Not Available; NM = Not Meaningful; LTM = Latest Twelve Months

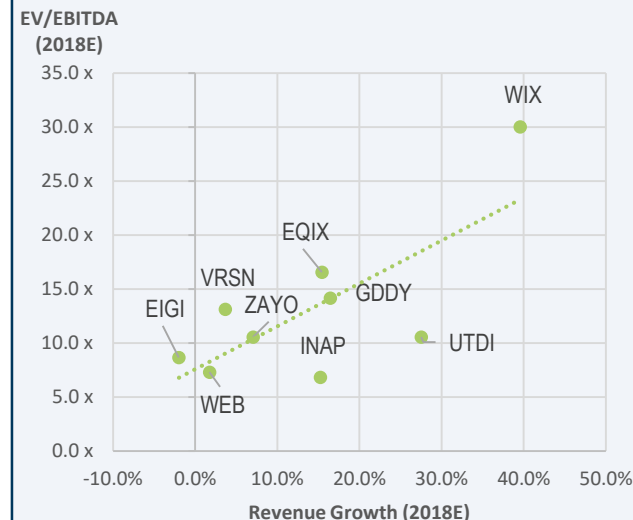
‡ = excluded from Mean and Median calculations

Source: Public Filings, Press Releases and Published Research Reports

(1) As of close August 31, 2018.

(2) Excludes non-recurring, discontinued operations and stock-based compensation

## Relative Valuation

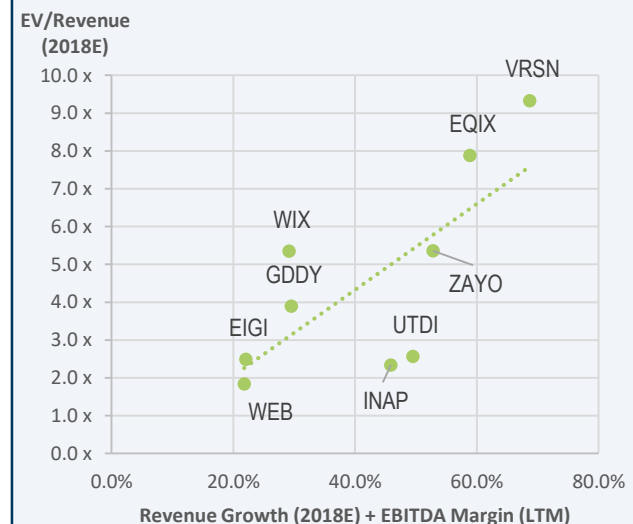


## Select August 2018 Precedent Transactions\*

Announced	Acquirer	Target	Description
August 29			▪ Resells domain names.
August 27			▪ Develops IT service management solutions.
August 10			▪ Develops and provides Internet services and hosting solutions.
August 8			▪ Provides SaaS applications for financial institutions
August 1			▪ Provides application development PaaS solution.

Source: CapitalIQ

\*Please contact the MHH Technology Services Group directly for any information regarding valuation and deal size



# INFORMATION SERVICES

## Valuation Metrics

(\$ in millions)

Company	Market Cap <sup>(1)</sup>	Operating Metrics						Valuation Multiples					
		Revenue		LTM Gross Margin	EBITDA <sup>(2)</sup>		LTM EBITDA Margin	EV / Revenue			EV / EBITDA		
		2018E	2019E		2018E	2019E		LTM	2018E	2019E	LTM	2018E	2019E
S&P Global Inc. (SPGI)	\$48,698	\$6,433	\$6,825	71.7%	\$3,181	\$3,405	48.3%	8.4x	7.9x	7.5x	16.8 x	16.0 x	14.9 x
Moody's Corporation (MCO)	\$31,891	\$4,703	\$4,989	70.9%	\$2,286	\$2,456	47.3%	8.7x	7.8x	7.3x	17.3 x	16.0 x	14.8 x
IQVIA Holdings Inc. (Q)	\$20,477	\$10,029	\$10,565	42.7%	\$2,199	\$2,378	21.1%	3.7x	3.0x	2.8x	16.6 x	13.6 x	12.6 x
IHS Markit Ltd. (INFO)	\$18,796	\$3,846	\$4,066	62.3%	\$1,520	\$1,651	31.1%	6.4x	5.9x	5.6x	16.6 x	15.0 x	13.9 x
Verisk Analytics, Inc. (VRSK)	\$16,863	\$2,361	\$2,525	63.5%	\$1,147	\$1,240	46.0%	9.2x	8.4x	7.8x	20.0 x	17.2 x	15.9 x
MSCI Inc. (MSCI)	\$12,729	\$1,442	\$1,580	78.5%	\$790	\$881	51.7%	10.9x	9.7x	8.8x	20.0 x	17.6 x	15.8 x
Gartner, Inc. (IT)	\$10,301	\$4,147	\$4,598	60.1%	\$776	\$873	11.5%	3.9x	3.1x	2.8x	28.3 x	16.8 x	14.9 x
FactSet Research Systems Inc. (FDS)	\$7,929	\$1,373	\$1,464	53.2%	\$469	\$499	33.9%	6.5x	6.0x	5.6x	17.8 x	17.6 x	16.5 x
Mean	\$20,961	\$4,292	\$4,576	62.9%	\$1,546	\$1,673	36.4%	7.2x	6.5x	6.0x	19.2x	16.2x	14.9x
Median	\$17,830	\$3,996	\$4,332	62.9%	\$1,334	\$1,446	39.9%	7.5x	6.9x	6.5x	17.5x	16.4x	14.9x

NA = Not Available; NM = Not Meaningful; LTM = Latest Twelve Months

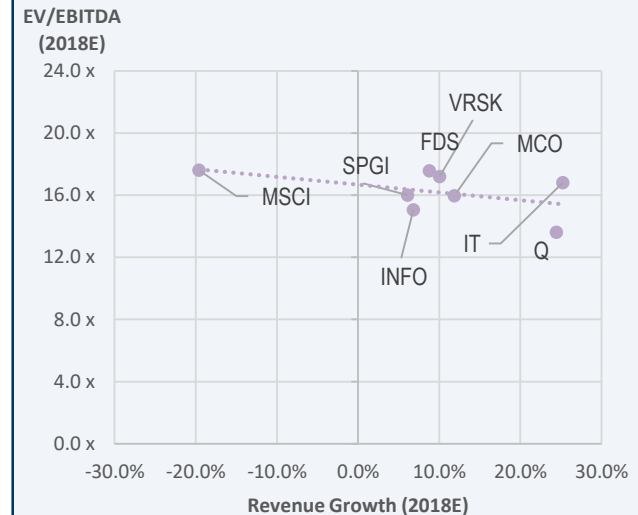
‡ = excluded from Mean and Median calculations

Source: Public Filings, Press Releases and Published Research Reports

(1) As of close August 31, 2018.

(2) Excludes non-recurring, discontinued operations and stock-based compensation

## Relative Valuation

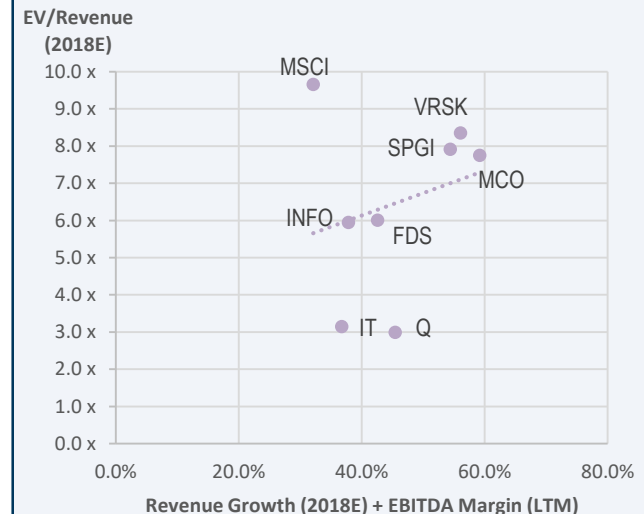


## Select August 2018 Precedent Transactions\*

Announced	Acquirer	Target	Description
August 30	MOODY'S ANALYTICS	REIS	• Provides commercial real estate market information and analytical tools.
August 28	DEVERON UAS	VERITAS	• Provides recurring data consulting and precision agriculture services.
August 23	ELI GLOBAL	First Scottish	• Provides multi-search services.
August 13	Tentamus Labs for Life	EPL BIO ANALYTICAL SERVICES	• Provides analytical laboratory testing services.
August 2	eurofins	nanolab technologies	• Provides knowledge based technology analytical services.

Source: CapitalIQ

\*Please contact the MHH Technology Services Group directly for any information regarding valuation and deal size



## Valuation Metrics

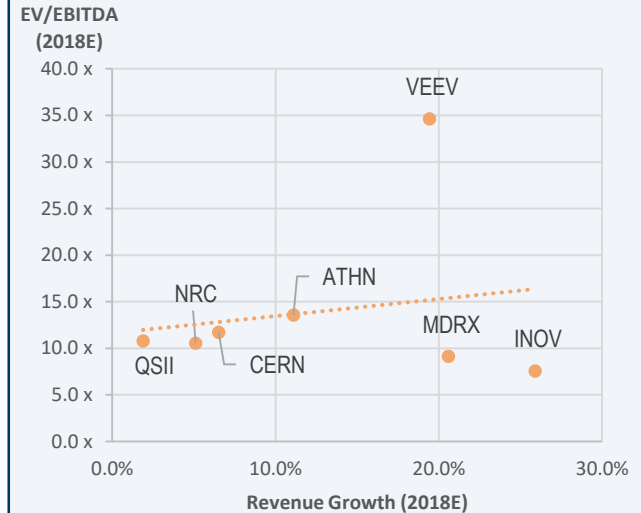
(\$ in millions)

Company	Market Cap <sup>(1)</sup>	Operating Metrics						Valuation Multiples					
		Revenue		LTM Gross Margin	EBITDA <sup>(2)</sup>		LTM EBITDA Margin	EV / Revenue			EV / EBITDA		
		2018E	2019E		2018E	2019E		LTM	2018E	2019E	LTM	2018E	2019E
Cerner Corporation (CERN)	\$19,324	\$5,369	\$5,830	84.5%	\$1,626	\$1,783	26.2%	3.8x	3.5x	3.3x	13.4 x	11.7 x	10.7 x
Veeva Systems Inc. (VEEV)	\$9,986	\$819	\$964	69.2%	\$266	\$317	24.1%	13.5x	11.3x	9.6x	42.1 x	34.6 x	29.1 x
athenahealth, Inc. (ATHN)	\$4,949	\$1,356	\$1,490	54.1%	\$374	\$428	16.8%	4.0x	3.7x	3.4x	18.9 x	13.6 x	11.9 x
Allscripts Healthcare Solutions, Inc. (MDRX)	\$2,068	\$2,178	\$2,289	49.6%	\$433	\$469	7.6%	2.1x	1.8x	1.7x	20.9 x	9.1 x	8.5 x
Inovalon Holdings, Inc. (INOV)	\$1,450	\$566	\$639	66.3%	\$161	\$192	12.8%	2.8x	2.2x	1.9x	16.7 x	7.6 x	6.4 x
Quality Systems, Inc. (QSII)	\$856	\$538	\$556	55.4%	\$81	\$85	9.7%	1.7x	1.6x	1.6x	14.1 x	10.8 x	10.2 x
National Research Corporation (NRC)	\$686	NA	NA	58.2%	NA	NA	32.1%	5.5x	NM	NM	16.4 x	NM	NM
HealthStream, Inc. (HSTM)	\$749	\$229	\$239	57.3%	\$39	\$43	11.0%	2.2x	2.4x	2.3x	18.8 x	14.1 x	12.9 x
Computer Programs and Systems, Inc. (CPSI)	\$411	\$291	\$300	55.6%	\$52	\$52	13.1%	1.9x	1.9x	1.8x	12.3 x	10.5 x	10.7 x
Castlight Health, Inc. (CSLT)	\$509	\$154	\$181	61.4%	(\$14)	\$7	-38.1%	3.0x	2.7x	2.3x	NM	NM	NM
Mean	\$4,099	\$1,278	\$1,388	61.2%	\$335	\$375	11.5%	4.0x	3.5x	3.1x	19.3x	14.0x	12.5x
Median	\$1,153	\$566	\$639	57.7%	\$161	\$192	13.0%	2.9x	2.4x	2.3x	16.7x	11.3x	10.7x

NA = Not Available; NM = Not Meaningful; LTM = Latest Twelve Months  
 ‡ = excluded from Mean and Median calculations  
 Source: Public Filings, Press Releases and Published Research Reports

- (1) As of close August 31, 2018.  
 (2) Excludes non-recurring, discontinued operations and stock-based compensation

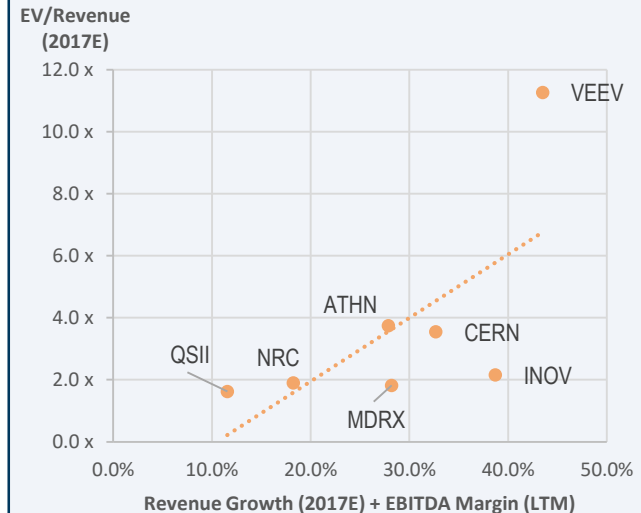
## Relative Valuation\*\*



## Select August 2018 Precedent Transactions\*

Announced	Acquirer	Target	Description
August 28	HARRIS HEALTHCARE	IATRIC systems	Provides software applications, interfaces, and reporting solutions.
August 27	True Nature HOLDING, INC.	ClariCare	Develops and delivers dental analytics and practice management software (PMS) solutions.
August 13	CGM <small>Campa Group Medical</small>	factis	Provides data collection and controlling services in healthcare.
August 2	globalpayments	AdvancedMD <small>Freedom to practice.</small>	Provides cloud-based practice management, EHR, and medical scheduling software.
August 1	Mediware®	bluestrata <small>ELECTRONIC HEALTH RECORDS</small>	Develops cloud-based EHR software.

Source: CapitalIQ  
 \*Please contact the MHH Technology Services Group directly for any information regarding valuation and deal size  
 \*\*Excluded: CSLT



# TECHNOLOGY SERVICES MONTHLY

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# Mufson Howe Hunter

## INVESTMENT BANKERS FOR GROWTH

### The Mufson Howe Hunter Technology Services Indices

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