

# Cloud Computing

## Cloud computing titans remain on fast-growth track

### Event

“Cloud Shift” continues to take off in a big way as enterprises are increasingly shifting away from legacy systems and towards 100% cloud IT environments. Enterprise Collaboration (EC) remains a key factor driving growth in the Software-as-a-service (or SaaS) cloud segment and thus, fuelled rapid adoption of **Office 365** and **G Suite** (previously known as Google Apps) – the two leading products in the EC market. The EC market was apparently worth about US\$26.7 billion in 2016 and could potentially grow to US\$49.5 billion by 2021 (CAGR 13.1%), according to research firm MarketsandMarkets.

### Impact

**Collaboration fuelling growth in Office 365.** Microsoft recently reported stellar first-quarter results with about \$0.7 billion increase in revenue attributed to Office 365. Unlike traditional Office products, Office 365 works on a subscription-based model that yields monthly fees income. 365 subscriptions have reportedly exceeded perpetual Office licenses and Microsoft said it expects two-thirds of its Office customers to be on 365 subscriptions by end June 2019.

**Underdog G-Suite continues to gain traction with more enterprise users.** However, enterprises also tend to be of smaller size compared to Office 365 users as Google offers a simpler (and cheaper) pricing structure and Office has always been the dominant productivity suite among organisations with Word, Excel, PowerPoint and Outlook being ingrained in everyday workflows. With Google Drive’s 800 million monthly active users and user numbers continue to rise, we think G-Suite could possibly still establish a niche foothold among start-ups and small businesses in the enterprise segment amidst competition.

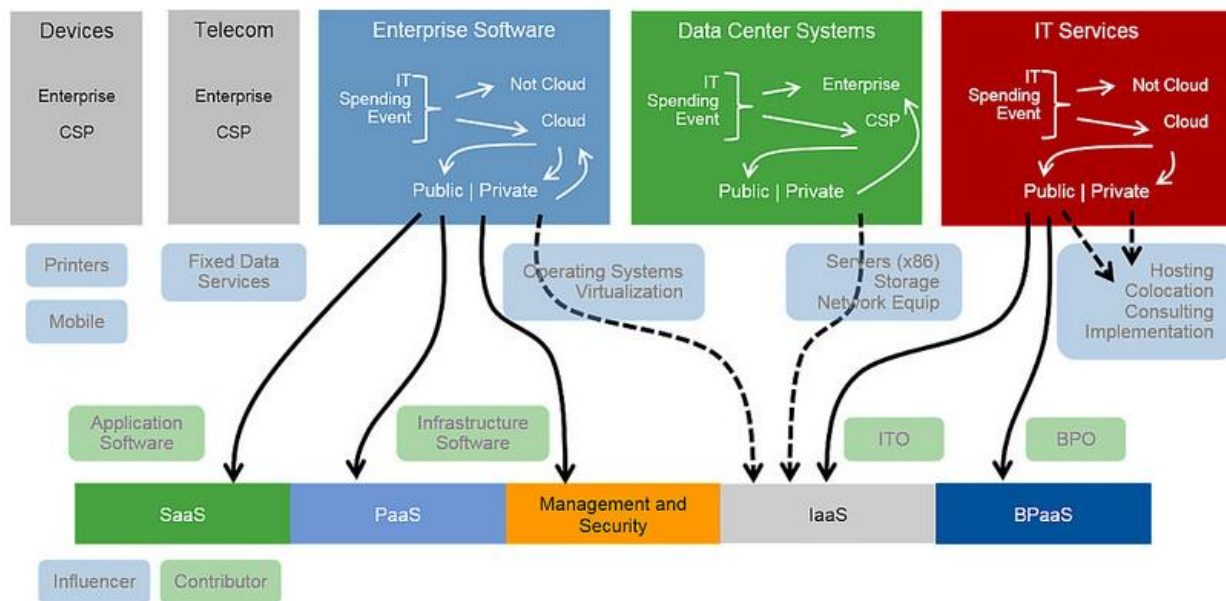
**Not forgetting Amazon which is also a big beneficiary of mounting cloud trend.** Amazon remains the dominant player in the IaaS/PaaS segment of the cloud with Amazon Web Services (AWS) maintaining a significant share nearing 40%, according to Synergy Research. Amazon leads the way ahead of other big boys comprising Microsoft Azure, Google Cloud Platform, and IBM cloud platform which have an estimated combined share at 23%. The company recently reported strong results with – being the most profitable unit – generating \$4.58 billion quarterly sales and operating income of \$1.17 billion.

### Stocks for Action

We are positive on robust growth potential in cloud computing space for Google’s parent company, Alphabet (GOOG US); Microsoft (MSFT US); and Amazon (AMZN US). Global IT spending on infrastructure products for cloud environment is projected to grow at CAGR 13% over the 2015-2020 period and would likely benefit the stocks stated above.

### Risks

Intensifying competition risks; economic slowdown that could lead to significant cut in IT budget spending among corporates.

**Figure 1: Shift from traditional IT spending to cloud environment – SaaS and BpaaS segments likely to see higher cloud shift rate**


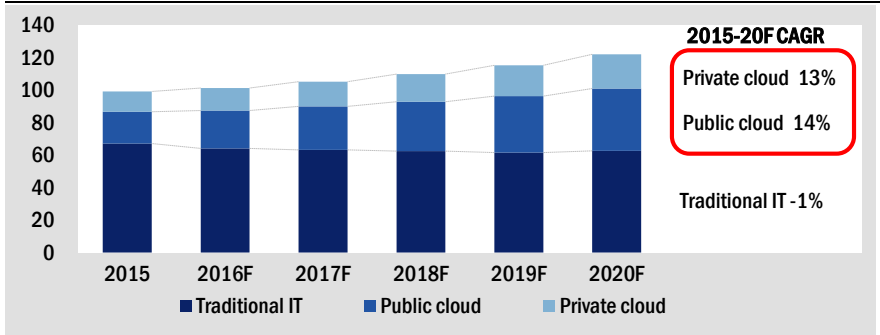
Source: Gartner

**Table 1: Different types of cloud service models**

Service Model	Explanation
Infrastructure as a Service (IaaS)	A standardised, highly automated offering, where computational resources, complemented by storage and networking capabilities are owned and hosted by a service provider and offered to customers on-demand. Customers are able to self-provision this infrastructure, using a Web-based graphical user interface that serves as an IT operations management console for the overall environment. API access to the infrastructure may also be offered as an option.
Platform as a Service (PaaS)	Usually depicted in all-cloud diagrams between the SaaS layer above it and the IaaS layer below, is a broad collection of application infrastructure (middleware) services (including application platform, integration, business process management and database services).
Software as a Service (SaaS)	Software that is owned, delivered and managed remotely by one or more providers. The provider delivers software based on one set of common code and data definitions that is consumed in a one-to-many model by all contracted customers at anytime on a pay-for-use basis or as a subscription based on use metrics.
Business Process as a Service (BPaaS)	Serves as the delivery of business process outsourcing services that are sourced from the cloud and constructed for multitenancy. Services are often automated, and where human process actors are required, there is no overtly dedicated labor pool per client. As a cloud service, the BPaaS model is accessed via Internet-based technologies.

Source: Gartner IT Glossary

Figure 2: Forecast IT spending (US\$bn) on infrastructure for deployment in cloud environments



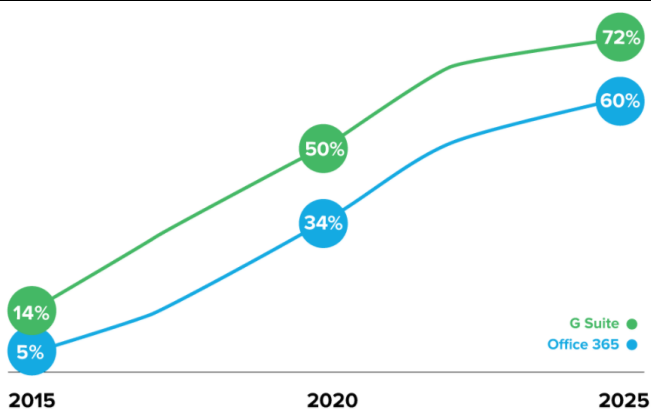
Source: IDC, KGI Research

Table 2: Key differences between Office 365 and G Suite

	Microsoft's Office 365	Google's G Suite
Pricing structure	Seven different corporate plans, ranging from \$6 to \$35 per user per month	Three different corporate plans, ranging from \$5 to \$25 per user per month.
Desktop applications	Desktop versions (e.g. Word, Excel, PowerPoint) available in addition to the cloud-based variants in most plans; Already the dominant productivity suite among corporates	-
Web applications	Offers a set of web applications; does not support files created by G Suite	Offers a set of web applications which have equivalents to Office 365; support files created by Office products
Online collaboration	Not as well-established as that by G Suite; "clunky" experience reported	Known for its real-time online collaboration feature/experience
Video calls	Supports up to 250 people in video conferencing via Skype app	Limits about 25-30 people in video conferencing via Google Hangout

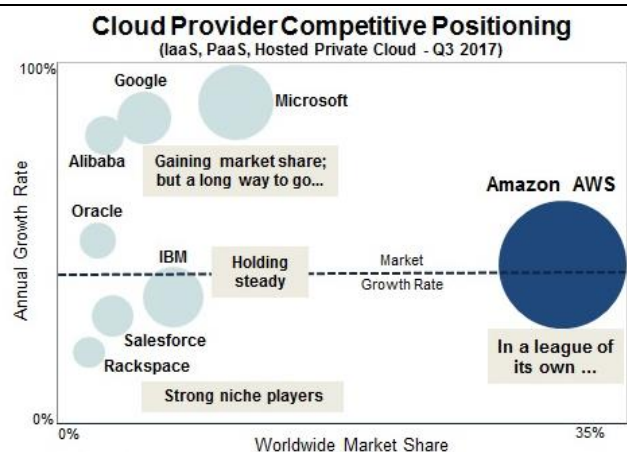
Source: Stylefactoryproductions.com, KGI Research

Figure 3: Percent of IT teams surveyed expecting to run productivity suites (Office/G Suite) 100% in the Cloud



Source: BetterCloud

Figure 4: Amazon retaining dominant share in global cloud platform segment



Source: Synergy Research

**Figure 5: US-listed peers operating in the IT cloud business**

Ticker	Company	Last Price	Market Cap (US\$ m)	ROE (%)	Sales	P / E (x)		P / B (x)		Rel. Price Perf. to SPX (YTD) (%)
				Current	Growth (%)	Last FY	FY+1	Last FY	FY+1	
GOOGL US	Alphabet Inc-Cl A	USD 1042.60	718,021	14.4	20.4	28.2	24.4	3.9	4.5	14.2
GOOG US	Alphabet Inc-Cl C	USD 1025.50	718,021	14.4	20.4	-	24.0	-	4.4	15.3
MSFT US	Microsoft Corp	USD 83.18	641,700	28.9	5.4	27.3	24.7	7.3	6.5	16.2
AMZN US	Amazon.Com Inc	USD 1103.68	531,833	9.1	27.1	152.7	94.7	18.5	20.2	27.8
BABA US	Alibaba Group Holding-Sp Adr	USD 186.08	476,580	19.4	56.5	47.1	38.1	6.7	8.6	83.9
ORCL US	Oracle Corp	USD 50.64	211,323	18.8	1.8	19.8	17.2	3.5	3.5	14.3
IBM US	Intl Business Machines Corp	USD 154.03	142,600	61.7	-2.2	12.1	11.2	8.6	6.8	(19.5)
ADBE US	Adobe Systems Inc	USD 176.25	86,881	20.6	22.1	43.1	41.8	6.6	12.8	48.6
CRM US	Salesforce.Com Inc	USD 101.95	73,271	-1.1	25.9	-	77.4	7.5	7.5	29.3
VMW US	Vmware Inc-Class A	USD 119.12	48,714	-	7.9	26.3	23.2	4.0	5.2	31.3
<b>Average</b>				<b>20.7</b>	<b>18.5</b>	<b>44.6</b>	<b>37.6</b>	<b>7.4</b>	<b>8.0</b>	

Source: Bloomberg, KGI Research

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