



## Market Insight Report Reprint

# The cloud complexity storm and the changing organizational dynamics of IT

## Highlights from VotE: Cloud, Hosting & Managed Services

September 15 2021

by **Melanie Posey**

Data from 451 Research's Voice of the Enterprise: Organizational Dynamics survey suggests that expanded IaaS/PaaS public cloud adoption and implementation brings challenges and growing pains along for the ride, including increasingly complex IT environments, IT management issues, skills shortages and difficulties in hiring and retaining cloud-skilled IT personnel.

451 Research

---

**S&P Global**

Market Intelligence

This report, licensed to Linode, developed and as provided by S&P Global Market Intelligence (S&P), was published as part of S&P's syndicated market insight subscription service. It shall be owned in its entirety by S&P. This report is solely intended for use by the recipient and may not be reproduced or re-posted, in whole or in part, by the recipient without express permission from S&P.

## Introduction

Organizations continue to take advantage of public cloud to address changing business conditions brought on by the accelerated shift to the digital economy. However, data from 451 Research's Voice of the Enterprise: Organizational Dynamics 2021 survey suggests that expanded IaaS/PaaS public cloud adoption and implementation brings challenges and growing pains along for the ride, including increasingly complex IT environments, IT management issues, skills shortages and difficulties in hiring and retaining cloud-skilled IT personnel.

## THE TAKE

As organizations move along the cloud maturity spectrum and transform their IT environments to serve the shifting requirements of digital businesses, increasing IT complexity and changing organizational dynamics are the inevitable result. Weathering the complexity storm will require enhanced IT skill sets, specialized cloud personas and coordination across IT and business roles within organizations.

## Context

**Public cloud, digital transformation and IT complexity are a package deal.** Shifting IT consumption models and increasingly digital business operations inevitably introduce complexity into enterprise IT environments. Just over 30% of organizations surveyed characterize their IT environments as being 'highly complex' (i.e., 8-10 on a 0 to 10 scale). Digital transformation leaders and cloud-mature organizations, as well as those in the manufacturing and finance sectors, post the highest levels of cloud IT complexity. Technical debt, application modernization challenges and regulatory compliance issues are key factors contributing to IT complexity, along with issues related to managing multiple cloud vendors and the sheer volume of public cloud platform services and features.

**Public cloud and on-premises IT environments continue to coexist.** Nearly 60% of organizations surveyed characterize their current IT environments as mostly/all on-premises (including third-party colocation), and just over 40% point to mostly/all public cloud as the best description of their organization's current IT estate. These extremes underscore the heterogeneous nature of modern IT: Only 13% of organizations are all-in on public cloud, while 7% are all-in on on-premises. To further illustrate the increasingly hybridity of enterprise IT, approximately 30% of organizations in both the mostly/all public cloud and mostly/all on-premises camps indicate intent to significantly increase spending on public cloud during the coming year.

**Public cloud champions emerge across organizational silos.** IT roles have long been the key primary decision-makers and influencers for IaaS/PaaS-related matters. The same is true for driving IaaS/PaaS usage overall: 64% of organizations point to IT leadership (CIO/CTO) and 52% call out IT operations as groups moving the public cloud ball down the field. However, public cloud advocates also exist outside the IT department, including the digital strategy group (34% of organizations) and application developers (34%). Digital leaders, cloud-mature organizations and those with high complexity IT environments have broader ranges of organizational functions involved in driving IaaS/PaaS usage.

**Cloud skills gaps persist, presenting obstacles to optimal cloud execution.** Among the 88% of organizations currently facing a lack of cloud-related expertise, the top skills gaps include operation/management of the various public cloud platforms (41%), cloud-native engineering (33%) and security (32%). On the cloud-native front, microservices architecture (i.e., the entire cloud-native way of doing things) emerges as the major focus of concern, with 53% of organizations reporting challenges in this space. Only 12% of organizations report having no shortage of expertise when it comes managing cloud environments

**Organizations look to retraining existing IT staff as a remedy to cloud skills shortages because hiring is easier said than done.** It is not surprising that redeployment of existing personnel is the go-to remedy for nearly two-thirds of organizations with cloud skills gaps, given that more than half report recruiting staff with cloud expertise has been somewhat or very difficult during the past few years. Staff retention also presents challenges, with 40% of organizations reporting that holding on to IT staff with cloud expertise has been somewhat or very difficult.

**Cloud/digital transformation requirements spur interest in new IT personas.** Increasingly complex IT environments require both new skill sets and new IT roles to manage and operate cloud operations at scale. During the past year, we've seen an uptick in organizations' use of specialized cloud personas: cloud architects (54% in 2021 compared to 37% in 2020); DevOps engineers (53% in 2021, up from 40% in 2020); and cloud security architects (42% in 2021 versus 30% in 2020). Organizations with highly complex IT environments are especially keen on specialized cloud personas, with 91% of this group having at least one specialized cloud role in place compared to 79% of the total survey sample.

## CONTACTS

### **The Americas**

+1 877 863 1306

[market.intelligence@spglobal.com](mailto:market.intelligence@spglobal.com)

### **Europe, Middle East & Africa**

+44 20 7176 1234

[market.intelligence@spglobal.com](mailto:market.intelligence@spglobal.com)

### **Asia-Pacific**

+852 2533 3565

[market.intelligence@spglobal.com](mailto:market.intelligence@spglobal.com)

[www.spglobal.com/marketintelligence](http://www.spglobal.com/marketintelligence)

Copyright © 2021 by S&P Global Market Intelligence, a division of S&P Global Inc. All rights reserved.

These materials have been prepared solely for information purposes based upon information generally available to the public and from sources believed to be reliable. No content (including index data, ratings, credit-related analyses and data, research, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of S&P Global Market Intelligence or its affiliates (collectively, S&P Global). The Content shall not be used for any unlawful or unauthorized purposes. S&P Global and any third-party providers, (collectively S&P Global Parties) do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Global Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON "AS IS" BASIS. S&P GLOBAL PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Global Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs or losses caused by negligence) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Global Market Intelligence's opinions, quotes and credit-related and other analyses are statements of opinion as of the date they are expressed and not statements of fact or recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security. S&P Global Market Intelligence may provide index data. Direct investment in an index is not possible. Exposure to an asset class represented by an index is available through investable instruments based on that index. S&P Global Market Intelligence assumes no obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P Global Market Intelligence does not endorse companies, technologies, products, services, or solutions.

S&P Global keeps certain activities of its divisions separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions of S&P Global may have information that is not available to other S&P Global divisions. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

S&P Global may receive compensation for its ratings and certain analyses, normally from issuers or underwriters of securities or from obligors. S&P Global reserves the right to disseminate its opinions and analyses. S&P Global's public ratings and analyses are made available on its websites, [www.standardandpoors.com](http://www.standardandpoors.com) (free of charge) and [www.ratingsdirect.com](http://www.ratingsdirect.com) (subscription), and may be distributed through other means, including via S&P Global publications and third-party redistributors. Additional information about our ratings fees is available at [www.standardandpoors.com/usratingsfees](http://www.standardandpoors.com/usratingsfees).