

Why GAO Did This Study

Cloud computing is a means for delivering computing services via IT networks. When executed effectively, cloud-based services can allow agencies to pay for only the IT services used, thus paying less for more services. An important element of acquiring cloud services is a service level agreement that specifies, among other things, what services a cloud provider is to perform and at what level.

GAO was asked to examine federal agencies' use of SLAs. GAO's objectives were to (1) identify key practices in cloud computing SLAs and (2) determine the extent to which federal agencies have incorporated such practices into their SLAs. GAO analyzed research, studies, and guidance developed by federal and private entities to develop a list of key practices to be included in SLAs. GAO validated its list with the entities, including OMB, and analyzed 21 cloud service contracts and related documentation of five agencies (with the largest fiscal year 2015 IT budgets) against the key practices to identify any variances, their causes, and impacts.

What GAO Recommends

GAO recommends that OMB include all ten key practices in future guidance to agencies and that Defense, Health and Human Services, Homeland Security, Treasury, and Veterans Affairs implement SLA guidance and incorporate applicable key practices into their SLAs. In commenting on a draft of this report, OMB and one agency had no comment, the remaining four agencies concurred with GAO's recommendations.

View [GAO-16-325](#). For more information, contact David A. Powner at (202) 512-9286 or pownerd@gao.gov.

CLOUD COMPUTING

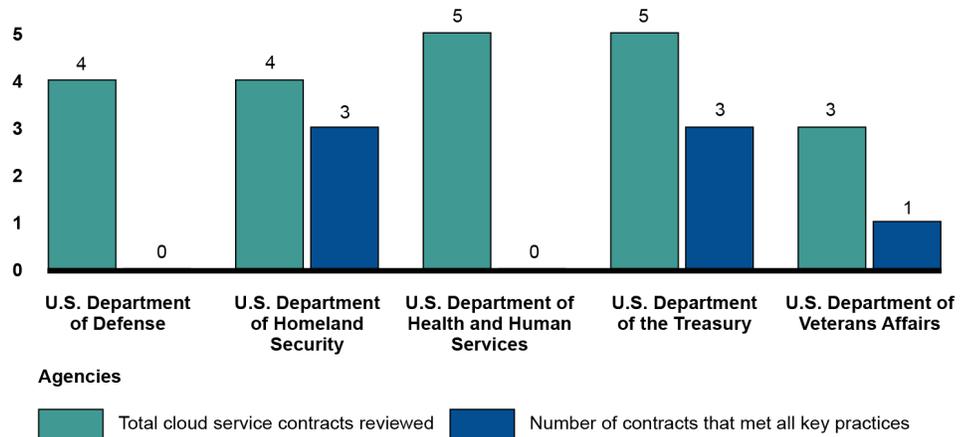
Agencies Need to Incorporate Key Practices to Ensure Effective Performance

What GAO Found

Federal and private sector guidance highlights the importance of federal agencies using a service level agreement (SLA) in a contract when acquiring information technology (IT) services through a cloud computing services provider. An SLA defines the level of service and performance expected from a provider, how that performance will be measured, and what enforcement mechanisms will be used to ensure the specified performance levels are achieved. GAO identified ten key practices to be included in an SLA, such as identifying the roles and responsibilities of major stakeholders, defining performance objectives, and specifying security metrics. The key practices, if properly implemented, can help agencies ensure services are performed effectively, efficiently, and securely. Under the direction of the Office of Management and Budget (OMB), guidance issued to agencies in February 2012 included seven of the ten key practices described in this report that could help agencies ensure the effectiveness of their cloud services contracts.

GAO determined that the five agencies and the 21 cloud service contracts it reviewed had included a majority of the ten key practices. Specifically, of the 21 cloud service contracts reviewed from the Departments of Defense, Health and Human Services, Homeland Security, Treasury, and Veterans Affairs, 7 had fulfilled all 10 of the key practices, as illustrated in the figure. The remaining 13 contracts had incorporated 5 or more of the 10 key practices and 1 had not included any practices.

Figure 1: Number of Cloud Service Contracts That Met All 10 Key Practices



Source: GAO analysis of agency data. | GAO-16-325

Agency officials gave several reasons for why they did not include all elements of the key practices into their cloud service contracts, including that guidance directing the use of such practices had not been created when the cloud services were acquired. Unless agencies fully implement SLA key practices into their SLAs, they may not be able to adequately measure the performance of the services, and, therefore, may not be able to effectively hold the contractors accountable when performance falls short.