Accepted Manuscript

Title: Technical and Managerial Quality of Services in Cloud Computing: A Delphi Study

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PII: S0378-7206(17)30314-2

DOI: https://doi.org/10.1016/j.im.2018.03.004

Reference: INFMAN 3048

To appear in: *INFMAN*

Received date: 9-4-2017 Revised date: 23-1-2018 Accepted date: 5-3-2018



Please cite this article as: Michael Lang, Manuel Wiesche, Helmut Krcmar, Technical and Managerial Quality of Services in Cloud Computing: A Delphi Study, Information and Management https://doi.org/10.1016/j.im.2018.03.004

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Technical and Managerial Quality of Services in Cloud

Computing: A Delphi Study

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Abstract— Identifying relevant Quality of Services (QoS) during Cloud service provider (CSP) selection

is critical for cloud customers' success. Using a Delphi study, sixteen professionals from different cloud

service models, company sizes, and industry types identified and ranked QoS attributes based on their

relative importance. Our results show consensus on QoS attributes and identify functionality, legal

compliance, contract, geolocation of servers, and flexibility as the top five QoS attributes. According to

our findings, a combination of technical and managerial QoS attributes are important during CSP

selection. Our findings provide guidance to both, CSP and cloud customers to select the "right" CSP.

Key Words — Cloud computing, Cloud service provider selection, Managerial Quality of

Service attributes, Technical Quality of Service attributes

Introduction

Investments in cloud computing have increased tremendously in the past few years [1]. As a

consequence, many cloud service providers (CSPs) now participate in this competitive market leading

to extremely competitive pricing for services [2, 3]. Not just one, but often several CSPs are able to fulfill

basic customer requirements [4, 5].

From the cloud customers' point of view, selecting the "right" CSP is essential to assure future

performance and maintain compliance with laws, policies, and rules [6-9]. When using cloud services,

cloud customers pool their resources outside of the firm's environment and increase their dependency

on networks [10]. As a consequence, customers face certain risks such as the risk of information leakage

resulting from malicious behavior in shared environments or the risk of service breakdowns because of

possible network outages [11]. At the same time, an increasing number of laws, policies, and rules forces

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