4.3.7.1 Platform Performance

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About

Platform Performance is concerned with the abilities of a computer system matched with an Operating System (OS) to meet or exceed the requirements of a specific system (or project). The platform could be a real system or a virtual system running locally or in the cloud. Often this comes down to the cost of the hardware and OS, but this can also include social responsibility requirements such as energy consumption, geopolitical concerns, or even ethics which prevent the use of certain products.

Figure 1 shows the salary of a Senior Software Engineer in the USA in July 2020, around $105,000. This is the take home pay, not the fully burdened cost.



Figure 1: Average Sr. Software Engineer / Developer / Programmer Salary - June 2020[1)]

Figure 2 shows the cost of either owning a Server or using a Infrastructure-as-a-Service (IaaS) solution. The Total Cost of Ownership (TCO) cost is about 10 times that of an IaaS.

	On-premises	Cloud	Savings $	Saving %
Year 1	39,347.18 $	3,766.80 $	35,580.38 $	90%
Year 2	9,063.19 $	3,766.80 $	5,296.39 $	58%
Year 3	9,063.19 $	3,766.80 $	5,296.39 $	58%
Year 4	9,063.19 $	3,766.80 $	5,296.39 $	58%
Year 5	39,347.18 $	3,766.80 $	35,580.38 $	90%
Year 6	9,063.19 $	3,766.80 $	5,296.39 $	58%
Year 7	9,063.19 $	3,766.80 $	5,296.39 $	58%
Total:	124,010.31 $	26,367.60 $	**97,642.71 $**	**79%**

Please note that inflation is not factored into these results

Figure 2: Average Total Cost of Ownership (TCO) versus Cloud [2)]

If your application is not performing well and it is estimated that it might take one year to upgrade the

software, you could get a senior Software Engineer for the $105,000 or you could upgrade your server. If it is a purchase, you could get almost three servers for the cost of an engineer. If you decided to use IaaS, for the cost of the engineer, you could get almost 20 servers.

It is recommended to follow the guidelines for sizing a server provided on-line.[3)4)5)]

DIDO Specifics

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To be added/expanded in future revisions of the DIDO RA

1) Payscale.com, Accessed 20 July 2020, https://www.payscale.com)

2) Cost of server ownership: on-premise vs. IaaS, April 2019, Sophie Furnival, Sherweb, Accessed 20 July 2020, https://www.sherweb.com/blog/cloud-server/total-cost-of-ownership-of-servers-iaas-vs-on-premise/

3) Basic Guidelines for Sizing Servers, Jason Thomas, 24 August 2017, Accessed 20 July 2020, https://www.mirazon.com/basic-guidelines-for-sizing-servers/

4) 3 secrets to right-sizing a server, TidalScale, Accessed 20 July 2020, https://www.tidalscale.com/3-secrets-to-right-sizing-a-server/

5) Determining Your Ideal Server Size: Which Package is Right for Me?, Media Temple, 7 April 2015, Accessed 20 July 2020, https://mediatemple.net/resources/web-hosting-101/determining-your-ideal-server-size-which-package-is-right-for-me/

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