



HPE Synergy TCO Calculator overview

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Abstract

This document introduces the HPE Synergy Business Value Calculator (TCO Calculator) available on hpe.com. It is intended to be the first in a series of papers. This initial paper provides an overview of the TCO Calculator and then refers the reader to more in-depth papers identifying the rationale, methodology, formulas, and supporting third-party sources in the assessment of the key cost elements within a TCO analysis.

Summary

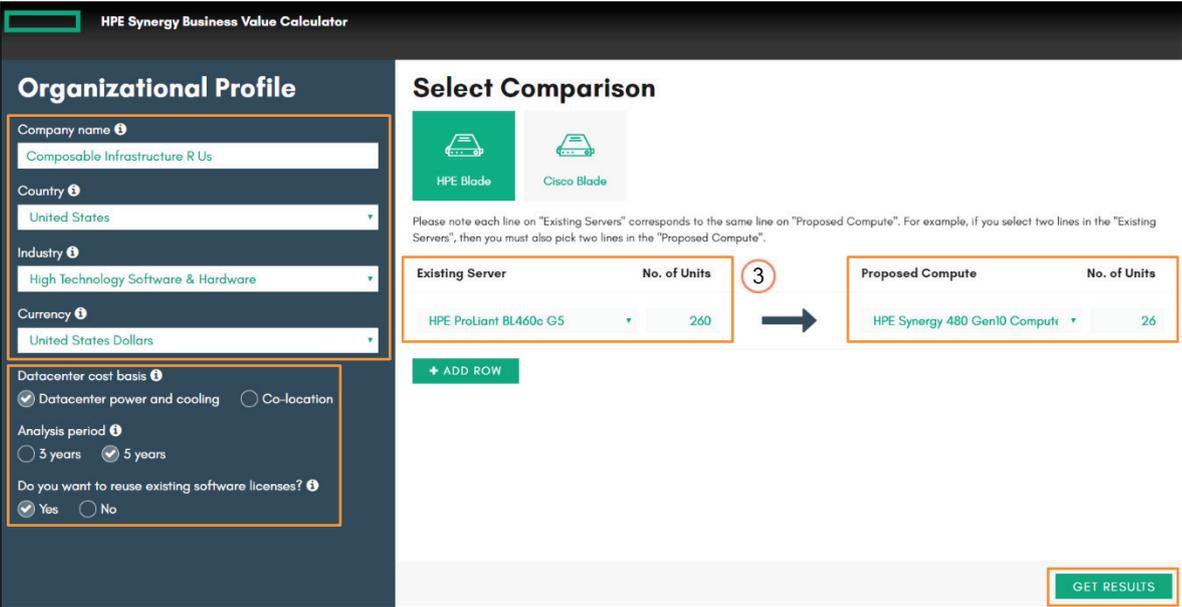
It is easy to compare the purchase cost of competing products, but many products cost less to buy and a lot more to operate and maintain. As such, it is more important to assess all direct and indirect costs over a solution's entire lifecycle to calculate its true business value. The HPE Synergy Business Value Calculator provides an initial preliminary economic assessment or total cost of ownership (TCO) analysis for a technology consolidation refresh (brownfield analysis). It evaluates and compares the total economic cost of purchasing and operating a new [HPE Synergy Composable Infrastructure](#) over time versus maintaining the existing legacy system helping you choose the best solution for your needs.

Through a straightforward set of options and drop-down choices, the TCO Calculator provides a simple, yet very effective means to obtain initial guidance to the financial benefits of migrating from legacy servers to a new HPE Synergy Composable Infrastructure. Estimated financial results include total TCO savings, return on investment (ROI), payback period, net present value, and more.

Analysis creation

Upon opening the TCO Calculator, you are presented with an Organizational Profile section on the left, see Figure 1.

1. Complete the required entries for the company name, country, and industry.
2. Review the options to adjust the currency, analysis timeframe, data center cost basis (whether the data center is on-site or co-location), and more. Click the  help button for assistance with any of these settings.



The screenshot shows the HPE Synergy Business Value Calculator interface. It is divided into two main sections: 'Organizational Profile' on the left and 'Select Comparison' on the right. The 'Organizational Profile' section contains several input fields: 'Company name' (filled with 'Composable Infrastructure R Us'), 'Country' (filled with 'United States'), 'Industry' (filled with 'High Technology Software & Hardware'), and 'Currency' (filled with 'United States Dollars'). Below these are radio button options for 'Datacenter cost basis' (selected: 'Datacenter power and cooling', unselected: 'Co-location'), 'Analysis period' (selected: '5 years', unselected: '3 years'), and 'Do you want to reuse existing software licenses?' (selected: 'Yes', unselected: 'No'). The 'Select Comparison' section has two tabs: 'HPE Blade' (selected) and 'Cisco Blade'. Below the tabs is a note: 'Please note each line on "Existing Servers" corresponds to the same line on "Proposed Compute". For example, if you select two lines in the "Existing Servers", then you must also pick two lines in the "Proposed Compute".' Below this is a table with two columns: 'Existing Server' and 'Proposed Compute', each with a 'No. of Units' column. The 'Existing Server' row shows 'HPE ProLiant BL460c G5' with 260 units. The 'Proposed Compute' row shows 'HPE Synergy 480 Gen10 Compute' with 26 units. An arrow points from the 'Existing Server' row to the 'Proposed Compute' row. At the bottom right of the 'Select Comparison' section is a 'GET RESULTS' button.

Figure 1. Analysis entry

Upon completion of these preliminary steps, you move to the Select Comparison section on the right.

3. Select your existing legacy server and enter the quantity. Current options include a wide range of prior generation [HPE BladeSystem](#) and Cisco UCS blades.
4. Select a HPE Synergy compute module, such as the HPE Synergy 480 Gen10 or 660 Gen10. Review the HPE Synergy compute quantity that is automatically suggested for you and adjust if desired.



The suggested quantity of HPE Synergy compute is determined using Gartner® IDEAS Competitive Profiles Relative Performance Estimate 2 (RPE2). RPE2 provides approximate assessments of theoretical server performance. It is a composite measurement representing an average across multiple workloads using mix of industry benchmarks including SAP® SD Two-Tier, TPC-C, TPC-H, SPECjbb2015, and two SPEC CPU2006 values. An equal weight is applied to each benchmark to prevent RPE2 from skewing to a specific benchmark or workload. The HPE Synergy compute quantity and the resulting consolidation ratio (legacy server quantity versus HPE Synergy compute quantity) are a general guideline and may be manually adjusted.¹ Variation can occur due to the configuration, application, tuning, and similar reasons. Always verify via second sources such as a workload-specific benchmark, proof of concept, etc.

Note

If your specific legacy server model is not listed, select a server that most closely represents it or contact your HPE representative who can use the more comprehensive “internal” version of the calculator that includes additional server options.

Next, you just simply select **GET RESULTS** and a customized tabular and graphical summary of your results are displayed along with the option to have a more detailed report emailed to you by selecting **GET YOUR REPORT**, see Figure 2.



Figure 2. Example HPE Synergy Business Value Calculator summary results

Analysis customization

The TCO Calculator has several settings allowing you to tailor the analysis. However, for a more custom and detailed assessment, your HPE representative has access to a considerably more comprehensive “internal” version of the calculator. Using this internal version, your HPE representative can modify many TCO assumptions and defaults, compare to a wider range of vendor platforms, and even generate a TCO analyses for a new project installation (greenfield analysis). Whether the TCO Calculator on hpe.com or the internal version, the methodology and formulas employed are the same; the difference between the two being the level of customization.

Using the internal version available to your HPE representative, modifying a configuration can have a modest to significant impact on the TCO financial results depending on the type and degree of customization. The HPE Synergy Business Value Calculator on hpe.com is intended to provide an initial preliminary TCO analysis. After review of these initial results, it is recommended to contact your HPE representative to generate a custom analysis specific to your situation.

¹ An alternate reputable source for server consolidation ratios is the Principled Technologies report: **Update datacenter technology to consolidate and save on virtualization** at principledtechnologies.com/HPE/Synergy_480_Gen10_upgrade_1217.pdf



Cost elements

There are many financial factors to consider when making a decision to replace existing IT systems. As a result, the TCO Calculator provides a very comprehensive analysis inclusive of the cost elements listed in Table 1. As detailed in the custom report that you can request, the specific cost elements within the analysis are dependent on your data center cost basis selection (whether the data center is on-site or co-location).

Table 1. HPE Synergy Business Value Calculator cost elements

No.	Cost element	On-site data center	Co-location data center
1	Hardware and software acquisition	✓	✓
2	Hardware and software support	✓	✓
3	Data center facility power and cooling	✓	
4	Data center facility co-location		✓
5	Data center facility carbon footprint emissions	✓	✓
6	Data center power infrastructure	✓	
7	Data center space infrastructure	✓	
8	Server downtime—lost employee productivity	✓	✓
9	Server downtime—revenue impact	✓	✓

The cost elements for the existing legacy servers and the new HPE Synergy Composable Infrastructure are calculated and then compared to each other generating the TCO financial results. Each cost element consists of industry-based methodologies and formulas. A series of in-depth papers are available identifying these methodologies and formulas as well as the rationale and supporting third-party sources, see Table 2.

Table 2. HPE Synergy Business Value Calculator additional reading

Reference guide	Cost elements reviewed (from Table 1)
HPE Synergy TCO Calculator: Hardware and software cost overview and methodology	1, 2
HPE Synergy TCO Calculator: Facilities cost overview and methodology	3, 4, 5
HPE Synergy TCO Calculator: Data center infrastructure cost overview and methodology	6, 7
HPE Synergy TCO Calculator: Downtime cost overview and methodology	8, 9

Using the TCO Calculator default settings, Figure 3 lists the typical TCO savings when migrating from legacy HPE BladeSystem BL460c servers to HPE Synergy 480 Gen10 compute. All values are in United States dollars (USD) on a per compute basis over the default over a 5-year time period. For example, migrating from 100 BL460c G7 servers would provide an estimated TCO savings of about \$1.56 million over 5 years. In general, the older the server generation, the greater the TCO savings. This is due to older servers having higher rates of downtime, greater support and IT administration costs, and poorer performance resulting in improved server consolidation.



Reference guide

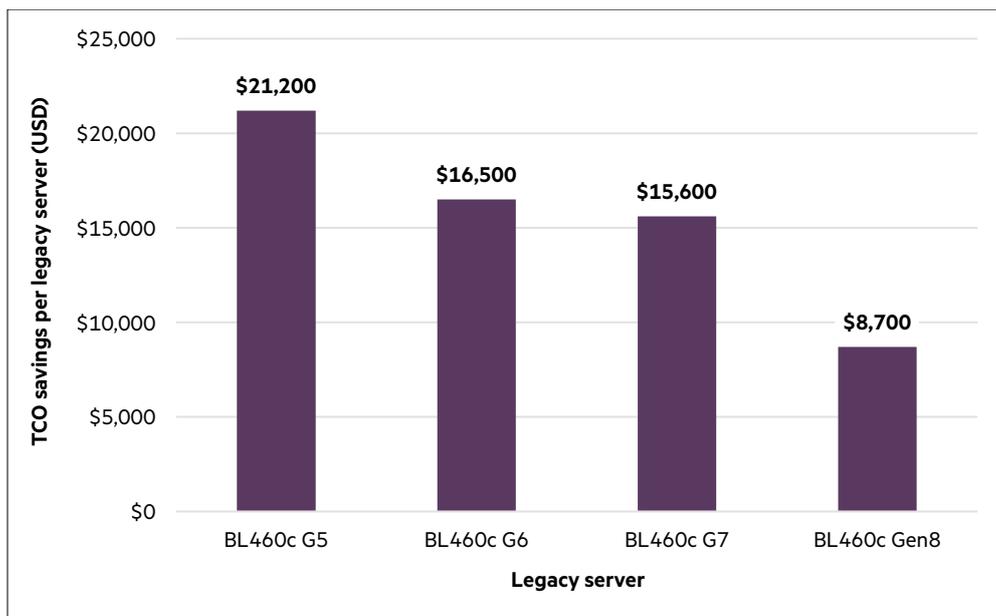


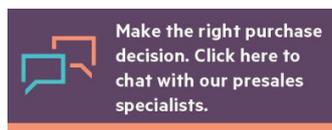
Figure 3. HPE Synergy Business Value Calculator typical TCO savings per legacy server (minimum 50 servers)

Conclusion

Significant financial benefits are possible when migrating from existing legacy servers to a HPE Synergy Composable Infrastructure. The HPE Synergy Business Value Calculator offers a very easy and intuitive means to assess these economic benefits. It compares not only the acquisition cost of the system, but also many other important factors in determining the total cost to purchase, operate, and maintain the IT equipment. In addition, an HPE representative has access to a more flexible and comprehensive internal version of the calculator that can be further customized to meet a specific situation.

Learn more at

hpe.com/synergy



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