**HPE GreenLake**

# HPE Small Business Solutions for Database and Application

# Contents

## About this configuration guide

### HPE Small and Medium Business Solutions

HPE Small and Medium Business Solutions are validated configurations designed to meet a variety of IT workloads and sizes for small to medium-sized businesses. It consists of a base system plus options and software to make up a complete solution. In most cases, these combinations are the foundation for Flex Offer special pricing. Note that pricing and special offers change much more frequently than these configurations and are subject to change without notice.

- Remote Worker (VDI)—Fast and secure remote access for all your apps and data from anywhere

- Small Office Deployment—A simple approach for your first complete IT solution including wired and wireless networking

- General Purpose—Low-cost solutions for smaller environment with customizable functionality

- Business Continuity—Protect data and applications from catastrophic loss

- Virtualization—Run multiple workloads on a single server

- Shared Storage—A single storage pool for multiple servers with recommended workload configurations

- Hyperconverged Infrastructure (HCI)—Software-defined storage for high availability virtualization

- Database and Application—Host line-of-business database and applications on-premises

### HPE Small and Medium Business Solutions for Database and Application

HPE Small and Medium Business Solutions for Database and Application are t-shirt-sized configurations of HPE ProLiant Gen10 and Gen10 Plus designed to enable small to medium businesses to host database and line-of-business applications on-premises when hosting in the cloud is not desired.

#### Configuration disclaimer

The configurations in this guide have been tested and validated to meet the stated solution capacity for a variety of typical small to medium business workloads. While they are complete solutions as configured, they can be considered reference configurations and may be sensibly modified as needed to achieve your unique solution requirements as long as the configuration specifications are not reduced. They are typically a minimum configuration for the solution size, so if a smaller configuration is needed it is often more advantageous to scale up from a smaller configuration rather than scale down from a larger configuration.

The stated capacity for workloads in this guide is highly subjective and depends on the environment they are deployed to. Use these values as a guide—not as an absolute. The stated capacity is also based on default settings for the server and storage options specified in the configuration. Stated capacity does not take into account all of the possible system settings or option modifications available, which can greatly impact the configuration's stated capacity. For example, certain BIOS settings are not factored into the solution capacity by default but can potentially and greatly increase the number of virtualized desktop workloads possible in a VDI or virtualization solution. Another example would be the increased performance that can be achieved by replacing hard disk drives with solid-state drives or by adding more memory.

Also, note that this guide is updated from time to time, and these configurations are subject to change without notice, as solution components can be discontinued before this guide is next updated. When substituting discontinued options be sure to replace them with comparable options that match or exceed the discontinued option specifications.

#### Use the iQuote Solutions tile

Unless otherwise noted, all of the configurations in this guide are available in the Solutions tile on the iQuote home page. iQuote is an online sales enablement web application that simplifies the process of configuring, quoting, and purchasing HPE products and solutions from a single location. The Solutions tile provides a quick and convenient way to select the complete solutions presented in this guide without having to manually configure them in iQuote. After selecting the desired solution in iQuote it can be modified as needed. You can access the universal version of iQuote through iquote.hpe.com/ or contact your preferred HPE authorized partner or distributor for live pricing.

# Build your solution

## Step 1: Determine your solution requirements

Understanding your expected workload profile is crucial for selecting the best solution to meet your needs. While HPE SMB Solutions for Database and Application are very similar in configuration, there are a few subtle differences. The key differences are how they manage data storage and software licensing costs. The following comparison will help you choose the solution that's best for your needs.

**Table 1.** Database and application comparison

| Key attribute/feature | HPE Small Business Solutions for Database | HPE Small Business Solutions for Applications |
|---|---|---|
| Compute | Low core count with a high-frequency single processor provides excellent performance that minimizes the cost of database licensing. A second processor can be added in some cases. | Balanced core count and moderate frequency increase the number of processing threads while still focused on keeping system costs down. |
| Memory | Fully populated memory channels enable low-latency database performance. Memory can be expanded.* | Balanced memory is sufficient for most cases and can be expanded. |
| Storage | Mixed-use SSDs provide higher performance and greater durability for large, highly dynamic data sets. | Low-cost, read-intensive, high-performance SSDs for static and lightly dynamic data. |
| Best for | • Highly dynamic OLTP database back end for web apps and non-web-based applications that use an external database<br><br>• High-frequency financial applications<br><br>• Applications that have integrated databases or store the application data within the application file system<br><br>• Large scale manufacturing Internet of Things (IoT)<br><br>• Online digital marketing / warehouse stock management<br><br>• Enterprise resource planning (ERP) and customer relationship management (CRM) data storage | • Web app front end / middleware<br><br>• Small business accounting/tax apps<br><br>• Light to medium graphical applications (media, geoscience, architectural)<br><br>• Small manufacturing Internet of Things (IoT)<br><br>• Industrial warehouse inventory<br><br>• Small retail / point of sale (POS) |

* Note: Microsoft SQL Server limits database memory allocation to 64 GB for Express, 128 GB for Standard, and Unlimited for Enterprise; other database products may vary

## Things to consider

**HPE Small Business Solutions for Database generally follow these characteristics:**

• Processor: A high-frequency / low core-count processor provides adequate database performance while keeping licensing costs down, due to core count being a key determining factor in database licensing costs.

• Memory: HPE ProLiant rack and tower servers are equipped with one or two DIMM slots per channel. For best performance, HPE recommends populating memory DIMM slots so that all channels have at least one DIMM of identical memory. HPE Small Business Solutions for Database is initially populated with all channels having one DIMM, leaving room to populate the second DIMM per channel if desired. Note that some database software limits the amount of memory that can be allocated to the database, even so populating all channels with identical DIMMs will provide the best memory performance.

• Networking: Standard 1GbE networking is usually sufficient unless the server is intended to be available to hundreds of users or IoT devices simultaneously, such as a public-facing application such as a web portal / online store or for industrial environments with dozens of IoT sensors, in which case 10GbE NIC would likely be appropriate, assuming the network infrastructure will support 10GbE.

• Storage: HPE Small Business Solutions for Database is equipped with mixed-use SSDs for all but the smallest configuration. This storage medium is suitable for the moderate to highly dynamic storage workload typical of Online Transaction Processing (OLTP) database servers. Where a lot of disk writes are expected, mixed-use SSDs will provide longer endurance than cheaper read-intensive SSDs. Write-intensive SSDs should be considered if the data is large volume and extremely dynamic.

**HPE Small Business Solutions for Applications generally follow these characteristics:**

• Processor: For most use cases, a single mid-core-count / mid-frequency processor will provide an excellent application experience for the average small to medium business. Some application software may have a fee structure based on hardware characteristics such as the number of CPUs, so care should be taken to select an appropriately sized processor when this is the case. It's also a good idea to follow software vendor recommendations, as some software may not be able to take advantage of higher core counts—more is not always better.

- Memory: Generally, only a moderate amount of memory is needed for good application performance. In some cases, performance depends on the number of users, where more users mean more memory should be provisioned. The minimum amount of memory is usually dictated by the software vendor system requirements. HPE Small Business Solutions for Applications start with an amount of memory deemed typical for most applications and can be expanded as needed per the software requirements.

- Networking: Standard 1GbE networking is usually sufficient for small to midsize application servers unless the server is intended to be available to hundreds of users simultaneously, such as a public-facing application such as a web portal or online store, in which case a 10GbE network interface card (NIC) might be appropriate, assuming the network infrastructure will support 10GbE.

- Storage: HPE Small Business Solutions for Applications are equipped with read-intensive SSDs. This storage media is suitable for primarily static data such as application code, documentation, and user interface (UI). Lower endurance read-intensive SSDs are suitable for applications that have integrated application data storage such as an integrated database or data stored in the application file structure, as long as the rate and quantity of data changes are relatively low compared to an online transaction processing (OLTP) database.

## Step 2: Choose your solution

Now that you know your solution type, you can easily select an HPE SMB Solution for Database and Applications from Tables 2, 3, and 4 by selecting the configuration with the appropriate amount of storage. Note that solution capacity is a function of the RAID configuration for storage.

Table 2 provides an overview of the current database solution portfolio, and Tables 3 and 4 provide an overview of the current application solution portfolio.

**Table 2.** HPE SMB Solutions for Database (rack and tower)

| | HPE ProLiant ML30 Gen10 Plus | HPE ProLiant ML110 Gen10 | HPE ProLiant ML350 Gen10 | HPE ProLiant DL20 Gen10 Plus | HPE ProLiant DL360 Gen10 | HPE ProLiant DL365 Gen10 Plus | HPE ProLiant DL380 Gen10 |
|---|---|---|---|---|---|---|---|
| **Solution capacity** | 1.44 TB | 2.4 TB | 2.88 TB | 1.92 TB | 2.88 TB | 2.88 TB | 4.8 TB |
| **Form factor** | 4U tower server 4 x LFF | 4.5U tower server 8 x SFF | 1U rack server 8 x SFF | 1U rack server 4 x SFF | 1U rack server 8 x SFF | 1U rack server 8 x SFF | 2U rack server 8 x SFF |
| **Processor** | Intel® Xeon® E-2314 (4 core / 2.8 GHz) | Intel Xeon Scalable 4208 (8 core / 2.1 GHz) | Intel Xeon Scalable 4210R (10 core / 2.4 GHz) | Intel Xeon E-2314 4 core / 2.8 GHz | Intel Xeon Scalable 4215R (8 core / 3.2 GHz) | AMD EPYC 7262 (8 core / 3.2 GHz) | Intel Xeon Scalable 4215R (8 core / 3.2 GHz) |
| **Memory** | 4 x 16 GB | 6 x 16 GB | 6 x 16 GB | 4 x 16 GB | 6 x 32 GB | 4 x 32 GB | 6 x 32 GB |
| **Disk controller** | Intel® VROC | HPE P408i-p | HPE P408i-a | Intel VROC | HPE P408i-a | HPE P408i-a | HPE P408i-a |
| **OS disk** | 4 x 480 GB SATA RI SSD | 2 x 240 GB SATA RI SSD | 2 x 240 GB SATA RI SSD | 2 x 480 GB SATA RI SSD | 2 x 240 GB SATA RI SSD | 2 x 480 GB SATA RI SSD | 2 x 240 GB SATA RI SSD |
| **Data disk** | Data on boot volume | 6 x 480 GB SATA MU SSD | 4 x 960 GB SATA MU SSD | 2 x 1.92 TB SATA MU SSD | 4 x 960 GB SATA MU SSD | 4 x 960 GB SATA MU SSD | 6 x 960 GB SATA MU SSD |
| **Network** | 2 x 1GbE | 2 x 1GbE | 4 x 1GbE | 2 x 1GbE | 4 x 1GbE | 4 x 1GbE | 4 x 1GbE |
| **Power supply** | 1 x 350W | 2 x 800W | 2 x 800W | 2 x 500W | 2 x 800W | 2 x 500W | 2 x 800W |
| **OS software** | | | | Microsoft Windows Server 2022 Standard Microsoft Windows Server 2019 Standard* | | | |

* Except HPE ProLiant ML30 Gen10 Plus and HPE ProLiant DL20 Gen10 Plus

**Table 3.** HPE SMB Solutions for Applications (rack)

|  | HPE ProLiant DL180 Gen10 | HPE ProLiant DL20 Gen10 Plus | HPE ProLiant DL325 Gen10 Plus v2 | HPE ProLiant DL360 Gen10 | HPE ProLiant DL365 Gen10 Plus | HPE ProLiant DL380 Gen10 |
|---|---|---|---|---|---|---|
| Solution capacity | 1.44 TB | 1.92 TB | 2.88 TB | 2.88 TB | 2.88 TB | 4.8 TB |
| Form factor | 2U rack server 8 x SFF | 1U rack server 4 x SFF | 1U rack server 8 x SFF | 1U rack server 8 x SFF | 1U rack server 8 x SFF | 2U rack server 8 x SFF |
| Processor | Intel Xeon Scalable 4210R (10 core / 2.4 GHz) | Intel Xeon E-2314 4 core / 2.8 GHz | AMD EPYC 7313P (16 core / 3.0 GHz) | Intel Xeon Scalable 4214R (12 core / 2.4 GHz) | AMD EPYC 7313 (16 core / 3.0 GHz) | Intel Xeon Scalable 6226R (16 core / 2.9 GHz) |
| Memory | 2 x 16 GB | 4 x 16 GB | 2 x 32 GB | 2 x 32 GB | 4 x 32 GB | 6 x 32 GB |
| Disk controller | HPE P408i-a | Intel VROC | HPE P408i-a | HPE P408i-a | HPE P408i-a | HPE P408i-a |
| OS disk | 2 x 240 GB SATA RI SSD | 2 x 480 GB SATA RI SSD | 2 x 480 GB SATA RI SSD | 2 x 240 GB SATA RI SSD | 2 x 480 GB SATA RI SSD | 2 x 240 GB SATA RI SSD |
| Data disk | 4 x 480 GB SATA RI SSD | 2 x 1.92 TB SATA RI SSD | 4 x 960 GB SATA RI SSD | 4 x 960 GB SATA RI SSD | 4 x 960 GB SATA RI SSD | 6 x 960 GB SATA RI SSD |
| Network | 2 x 1GbE | 2 x 1GbE | 4 x 1GbE | 4 x 1GbE | 4 x 1GbE | 4 x 1GbE |
| Power supply | 2 x 500W | 2 x 500W | 2 x 500W | 2 x 500W | 2 x 800W | 2 x 800W |
| OS software | Microsoft Windows Server 2022 Standard Microsoft Windows Server 2019 Standard* | | | | | |

* Except HPE ProLiant DL20 Gen10 Plus

**Table 4.** HPE SMB Solutions for Applications (tower)

|  | HPE ProLiant ML30 Gen10 Plus | HPE ProLiant ML110 Gen10 | HPE ProLiant ML350 Gen10 |
|---|---|---|---|
| Solution capacity | 1.44 TB | 1.92 TB | 2.88 TB |
| Form factor | 4U tower server 4 x LFF | 4.5U tower server 8 x SFF | 4U tower server 8 x SFF |
| Processor | Intel Xeon E-2314 (4 core / 3.4 GHz) | Intel Xeon Scalable 4208 (8 core / 2.1 GHz) | Intel Xeon Scalable 4210R (10 core / 2.4 GHz) |
| Memory | 2 x 16 GB | 2 x 16 GB | 4 x 16 GB |
| Disk controller | Intel VROC (embedded) | HPE P408i-a | HPE P408i-a |
| OS disk | 4 x 480 GB SATA RI SSD | 2 x 240 GB SATA RI SSD | 2 x 240 GB SATA RI SSD |
| Data disk | Data on boot volume | 5 x 480 GB SATA RI SSD | 4 x 960 GB SATA RI SSD |
| Network | 2 x 1GbE | 2 x 1GbE | 4 x 1GbE |
| Power supply | 1 x 350W | 2 x 800W | 2 x 800W |
| OS software | | Microsoft Windows Server 2022 Standard Microsoft Windows Server 2019 Standard* | |

* Except HPE ProLiant ML30 Gen10 Plus

## Other considerations

Most of the HPE Small and Medium Business Solutions for Database and Applications can be expanded with more memory and storage, to increase the capacity of the solution. Finally, some HPE Small Business Solutions can be equipped, with redundant power supplies for additional availability protection.

## Note

Configurations are subject to change as options can EOL/DISC. Be sure to replace with comparable options that match the option specifications.

## Services and financing

### HPE Pointnext Services

A services partner built for your business today and tomorrow, HPE Pointnext Services enables you to meet availability commitments with a variety of coverage levels and response times and easily connect to HPE for faster problem resolution. HPE Pointnext Services offers comprehensive hardware and software services to help increase the availability of IT infrastructure and extend in-house IT staff with HPE expertise. You can do more with less by leveraging service tools with built-in simplification and remote management tools.

Service offerings include:

- HPE Pointnext Complete Care

- HPE Pointnext Tech Care

- HPE Lifecycle Services

**Note**

HPE recommends HPE Pointnext Tech Care as the minimum recommended service level for HPE Small Business Solutions.

### HPE Financial Services

Simple IT equipment financing, asset lifecycle solutions, and SMB finance option designed to help your business seize opportunities to evolve and thrive. hpe.com/us/en/services/finance-it-technology.html

**HPE Subscription Services** allows SMBs to select a complete solution from predefined options that include best-in-class compute, storage, and networking hardware; software; accessories; and worry-free support services for a predictable monthly subscription fee. No large, up-front purchase to make—just subscribe, use, return, and renew. No worries about what to do with old equipment. Need to expand? Simply add more hardware or services. HPE channel partners can offer hardware, software, and support services in a single solution and deliver it in one simplified subscription contract.

**HPE Technology Refresh program** replaces ownership with predictable monthly or quarterly payments and provides for a shorter, routine refresh cycle every 24 to 48 months. SMBs don't have to be locked into holding onto aging IT equipment and delaying upgrades.

## Simple, secure, affordable

HPE Small Business Solutions lower the cost of accessing easy-to-use on-premises and hybrid cloud solutions without sacrificing security. To learn more about HPE Small Business Solutions, visit the resources included in this document, or contact your HPE or authorized partner representative. Find an IT reseller close to you at findapartner.hpe.com.

### Resources

- HPE ProLiant Server QuickSpecs

- HPE Server Options

- HPE Operational Support Services

- HPE Support Center

- iQuote

- SMB Solutions Wizard

**Learn more at**
hpe.com/info/smbsolutions

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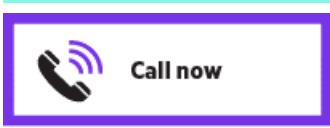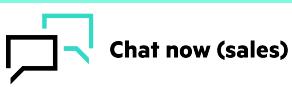
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