# Z by HP Data Science Workstation

## Why Z by HP?

AI Practitioners spend 80-90% of their time on data processing & preparation. This labor intensive period is where Z by HP provides the greatest contribution to data science through GPU processing.

Z by HP allows for data scientists to maximize their workflow output and move from analyzing data in hours and cycles to milliseconds per click.

## Optimized Performance for Data Science

- High-level solution with the power needed to increase speed and efficiency.
- The ability to do data preparation, cleaning, exploration, visualization, modelling, training and testing all on one, local, secure device.
- Increased responsiveness when doing data exploration. Freely interact with your data and create business insights more frequently.

## Benefits of Z

Z by HP data science workstation is now available as a pre-configured solution specifically to tackle data science. Fully integrated with NVIDIA Quadro RTX GPUs and accelerated CUDA-X AI data science software[1] providing a seamless deployment experience out of the box. Compared to mainstream CPU solutions, a Z by HP data science desktop workstation is 10x faster with huge performance gains[2] allowing for between 2 billion and 5 billion database row output-depending on configuration[3].

Z by HP data science workstations deliver a high-performance, enterprise-class solution that dramatically boosts productivity, speeds up time to insight, and helps lower the cost of data science projects. Breakeven with a Z by HP Z4 data science workstation configuration vs. cloud server implementation in as little as 8 months[4]. Have confidence in your data science investment with a secure, expandable solution that is ready to go where your data takes you.

## Z by HP Data Science Recommended Configurations

### HP Z4 G4
2 to 3BN rows in minutes vs. hours
Perfect for engineering, visualization, and machine learning.

RAPIDS Recommendations:
- NVIDIA RTX 8000 GPU (48 GB)
- Intel® Xeon® 6C CPU
- 128-256 GB RAM
- 1 TB HP Z Turbo drive
- 2 TB HP Z Turbo data drive (optional)
- Ubuntu 18.04 or RHEL 7.5
- 1000-Watt Power Supply

### HP Z8 G4
4 to 5BN rows in minutes vs. hours
Ideal for running complex simulation, ML and processing huge amounts of data.

RAPIDS Recommendations:
- Dual NVIDIA RTX 8000 GPU + NVLink
- Dual Intel® Xeon® 8C CPU
- 192-512 GB RAM
- 1 TB HP Z Turbo drive
- 2 TB HP Z Turbo data drive (optional)
- Ubuntu 18.04 or RHEL 7.5
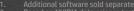- 1450-Watt Power Supply

### HP ZBook 17 G6
500MN to 1BN rows in minutes vs. hours
The ultimate choice when an AI/ML developer or data scientist needs a mobile workstation.

RAPIDS Recommendations:
- NVIDIA RTX 5000 (16GB)
- Intel® Core™ i9 + 9980H
- 64GB DDR4 2666 RAM
- 512 GB PCLe NVMe SSD + 1 TB SATA
- Ubuntu 18.04 or RHEL 7.5
- 200-Watt Power Supply

NVIDIA.