

SOLUTION:
DataINDUSTRY:
Higher educationCOUNTRY:
Canada

“This is the future biology—it’s all driven by genomic technologies plummeting in price. We get more data and understand it better.”

— **ANDREW MCARTHUR**,
ASSOCIATE PROFESSOR,
BIOCHEMISTRY AND
BIOMEDICAL SCIENCES,
MCMASTER UNIVERSITY

→ EXPLORE DIGITAL GAME CHANGERS

**Hewlett Packard
Enterprise**

FIGHTING PANDEMICS, ONE GENOME AT A TIME

McMaster University in Ontario, Canada, is helping the world fight COVID-19 and other infectious diseases by unlocking the genomic secrets of pathogens. Through genomic surveillance, researchers at the university’s M.G. DeGroote Institute for Infectious Disease Research learn how the virus behind COVID-19 is mutating and spreading, enabling health authorities to quickly roll out measures, and guiding scientists to develop vital vaccines and drugs.

OBJECTIVES

- Help fight the COVID-19 pandemic and prevent any new biological threats
- Discover the structure of SARS-CoV-2’s genome to learn how it is mutating and spreading
- Enable health authorities to quickly roll out measures and scientists to develop vaccines and drugs

REQUIREMENTS

- Deploy a high-performance computing platform to support genome sequencing software
- Gain the ability to analyze hundreds of samples of SARS-CoV-2 from patients every day

- Power machine learning workloads to identify drug-resistant lung infections after COVID-19

SOLUTION

- HPE Superdome Flex with Intel® Xeon® Gold 6254 Processors
- HPE Apollo 6500 with Intel Xeon Gold 6230 Processors and top-bin GPUs
- HPE Nimble Storage HF20C

KEY PARTNERS

- Arrow ECS Canada Limited
- Compugen Inc

OUTCOMES

- Accelerates the sequencing of virus genomes and identification of variants by 10x
- Learns how viruses work and spread, and how they can be contained
- Identifies SARS-CoV-2 variants present in Ontario’s Greater Hamilton area
- Helps inform decisions around vaccine distribution and public health management

ADDITIONAL RESOURCES

- [CASE STUDY](#)

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