

# Cancer Computer

## Computing for the Cure

*A social enterprise dedicated to accelerating cancer research with high performance computing*

“The front line in the global war on cancer is being fought and will be won inside a computer.”

David Agus, Professor of Medicine and Engineering at the University of Southern California

“The cure for cancer will be found in the mountains...mountains of big data.”

Eric Schadt, Chair, Department of Genetics and Genomic Sciences at Mount Sinai School of Medicine

“As a biologist and as a supercomputing expert, I salute the work of Cancer Computer and look forward to the results of their work.”

Craig Stewart, Associate Dean, Research Technologies, Indiana University,  
Executive Director, Pervasive Technology Institute

# Computing for the Cure

- Cancer Computer is a social enterprise.
- We lever charitable goodwill of individuals, corporations, foundations, and volunteers, to provide much needed computing resources, to aid cancer research.

# Canadian Registered Charity

- We help cancer researchers who may have limited
  - Funding
  - HPC resources
  - HPC expertise
  - are waiting on institutional resources to become available
  - have no other alternative

# Idea to Processing in 4 Years

- Non-profit corp established in May 2015
- Charitable registration with Canada Revenue Agency, March 2017
- 10 volunteers
- 2 industry advisors

# Installed Infrastructure

- Approx. 660 servers comprising 12,000 x86 cores in
- 10 collocation facilities currently, 12 by end of 2019
- 3 in U.S. Universities: U of Illinois, Indiana U, and U of Utah
- 2 in Canadian Universities: Queens and McGill



# Current Research Supported

- Direct support of campus projects on collocated sites: For example, at U of Illinois, supporting the Urbana Cancer Center, Carle Hospital, etc.
- 11 Projects on the Open Science Grid (OSG)
- 8 Projects on XSEDE
- 4 Projects on BOINC (opportunistic)



## A Social Enterprise: Volunteered Time and Run on Donated Hardware Cancer Computer Operational Clusters – Summer 2019

Supporting projects the following Research institutes:

### Collocated

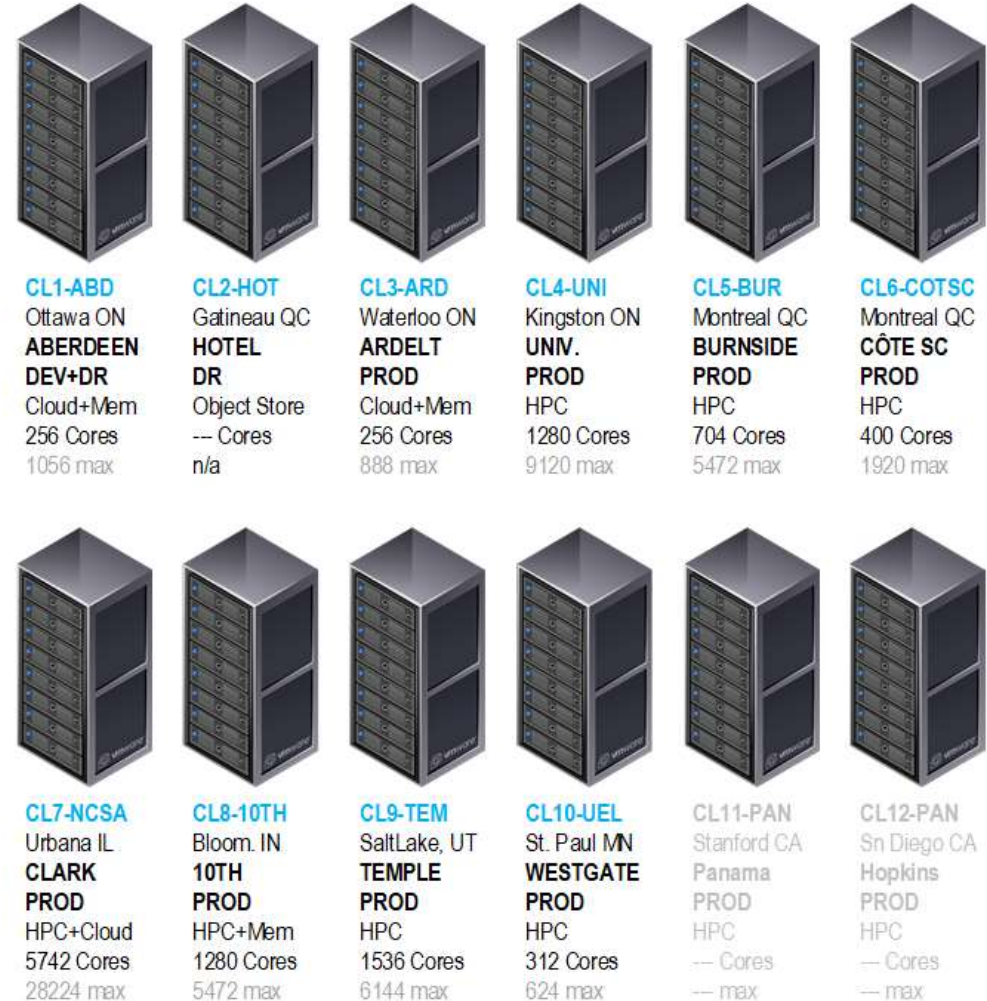
University of Illinois  
McGill University  
Queens University  
Lady Davis Institute for Medical Research  
Indiana University Medical School  
University of Utah Health (HCI)

### Supported

Harvard University Medical School  
Princess Margaret Cancer Centre  
University of Illinois at Urbana-Champaign  
University of Washington  
Clemson University  
University of Nebraska Medical School  
University of California at San Francisco  
Saga-Ken Medical Centre Koseikan

### Supported projects via:

Open Science Grid (**OSG**)  
Extreme Science and Engineering Discovery  
Environment (**XSEDE**)



# Looking Forward

- Expanding our service provider status with XSEDE
- Scaling-up our 'compute cloud' for graphical instances
- Expanding into Europe in 2020, and Asia in 2021

# How You Can Help – In-Kind Donations

- Donation of evergreened hardware
- Donation of collocation services / rackspace
- Donation of cloud credits to private or public
- Discounts on hardware and services

# Corp. & Employee-Matched Donations

- One-time and scheduled corporate donations
- Employer-matched donations by employees on Benevity
- Individual donations
- Donations to name servers in memory of a soul lost to cancer

# Support Us

Working together, you can be our partners supporting our social enterprise to cure this dread disease

# Cancer Computer: Thank You

**Computing for the Cure**

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