

HOLLAND COMPUTING CENTER

David in the world: International
connections



Where to start? In the beginning...

In 2005, UNL's Research Computing Facility was one of the seven recipients of a USCMS Tier-2 site.

- This put us alongside sites like MIT, Caltech, UCSD, Wisconsin... even though, at the time, RCF had one employee besides Dave.
- A few months later, a graduate student from the math department came around asking for a job...



The proto-OSG, a Year before Nebraska joined.

The work Dave did literally put Nebraska “on the map”.

Only MIT and Nebraska were “new” sites for CMS.

This may have appeared to be ‘lucky’ for Nebraska: lucky win of an award, lucky to build a great team, lucky to build a base at UNL.

- In truth, no one is this lucky -- rather, this is what quiet, steady leadership looks like.

Grid3: An Operational National Grid

- **30 sites, 3500 CPUs: Universities + 4 national labs**
- **Part of LHC Grid**
- **Running since October 2003**
- **Applications in HEP, LIGO, SDSS, Genomics, CS**



<http://www.ivdgl.org/grid3>

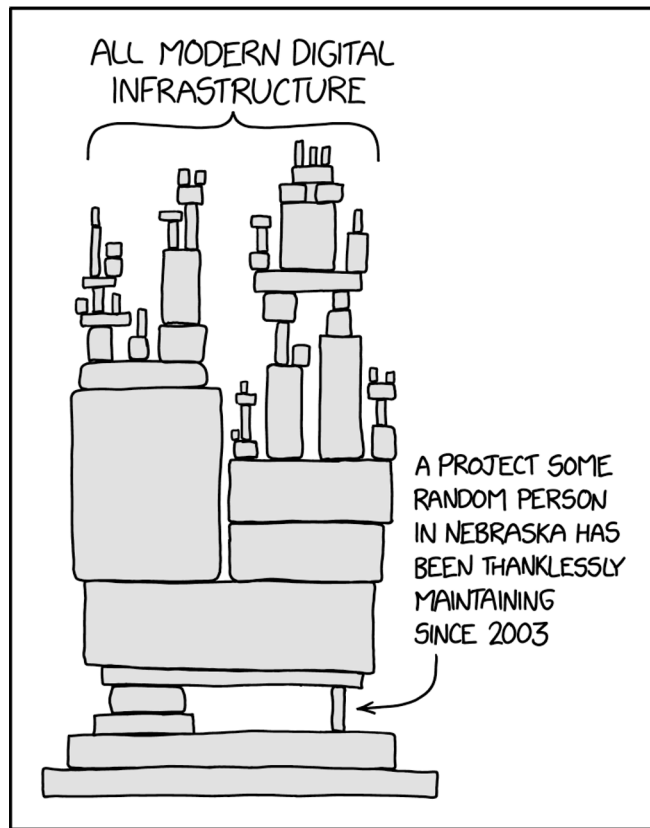
What makes a collaboration?

When we think about leadership, we often think about the ‘frontman’ - the person who is the loudest, the most visible.

- Dave never spoke about himself in superlatives but rather referred to himself as a “quant country computational chemist”.
- This is the heart of a collaboration or a partnership like the Open Science Grid - the dependable backer, the tireless supporter, the endless advocate.

Dave would always point out the cost of electricity to power the computer - even if it was utilized by opportunistic users - was far lower than the depreciation costs.

- But he was never a person who needed to do the calculation to know it was the right thing to do.



<https://xkcd.com/2347/>

Always a believer in the power of sharing



HCC Campus Grid

- Holland Computing Center resources are combined into an HTC campus grid
 - 10,000 cores, 500 TB in Omaha
 - 5,000 cores, 3 PB in Lincoln
 - All tied together via a single submission protocol using OSG software stack
 - Straightforward to expand to OSG sites across the country, as well as to EC2 (cloud)
 - HPC jobs get priority; HTC ensures high utilization

Nebraska Supercomputing Symposium 2012



Dave served on the OSG Council starting in 2010 and was voted as chair in 2016.

Dave tirelessly promoted the idea of sharing - whether for local Nebraskans or global science collaborations. **Computing can make a difference!**

Connecting Nebraska to the World

RCF - and later HCC - were not interested in simply serving global experiments like CMS but also making an impact on Nebraska.

OSG was one way to do this - but also brought knowledge and expertise; opportunities for students; and computing power for local researchers.

david swanson

old-inbox February 19, 2006

Condor Research Opportunity

To: ugrads@cse.unl.edu, Cc: grads@cse.unl.edu

The Research Computing Facility has one-time money to support several students, in particular undergraduate students, on University computers. Condor scavenges (or harvests) cycles from otherwise idle machines, and as such is used for high-throughput computing. As opposed to high-performance computing, high-throughput computing is employed for independent processes that need completion in a larger period of time. High-throughput computing asks, "How quickly can I finish this job?" as opposed to the traditional high-performance question, "How quickly can I finish this job?"

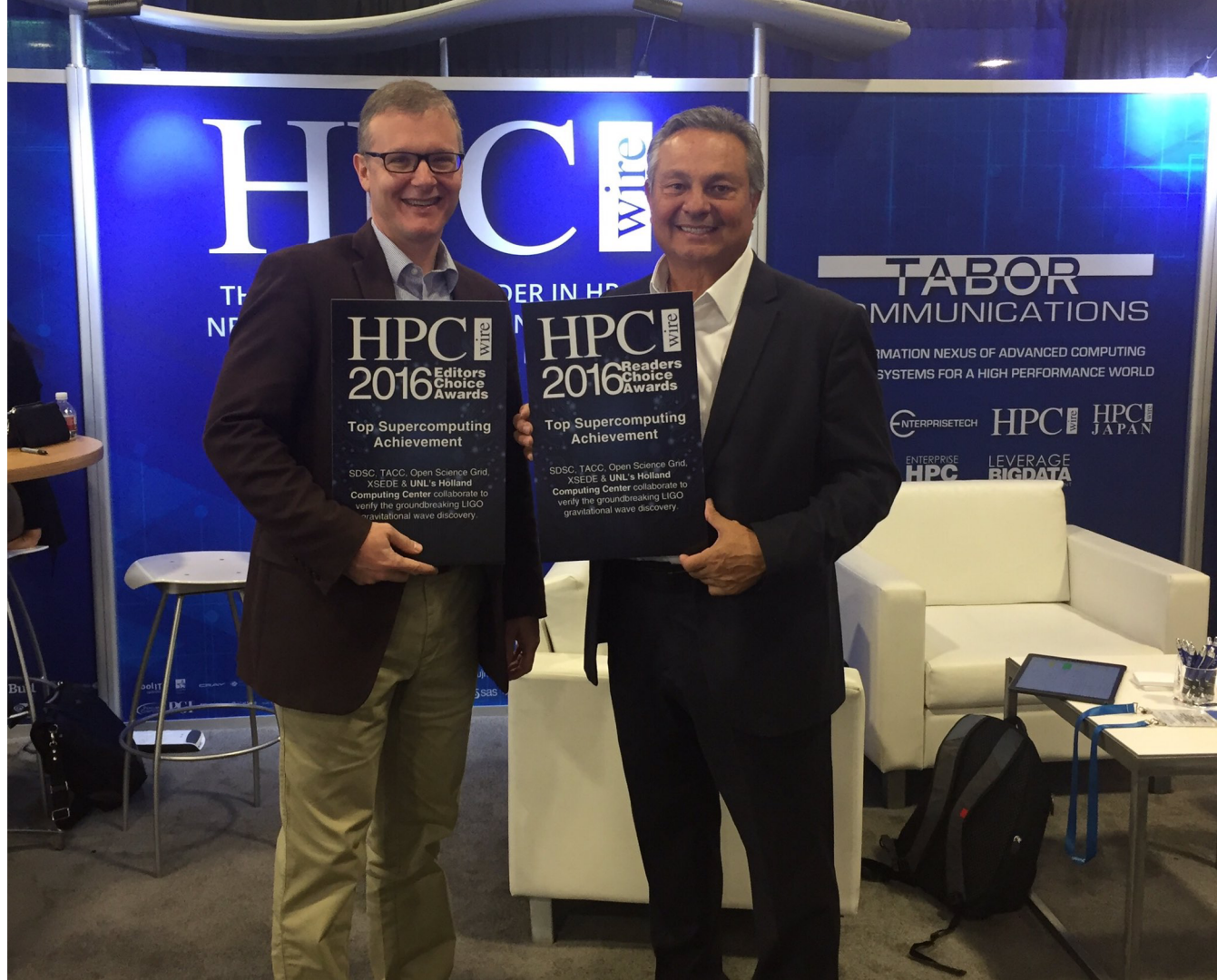
This project needs help to deploy software on various lab machines, to make the system more user-friendly (e.g., to implement a web interface), and to test and develop various layers of software. Interested students, or those who are asked to reply to Dr. David Swanson (dswanson@cse.unl.edu) with the above subject line. The funding is immediate; students could start as soon as this week.

Best regards,

Dr. David R. Swanson
Director: Research Computing Facility
University of Nebraska-Lincoln

LIGO too...

In fall 2015, LIGO needed to quickly leverage the OSG to perform statistical calculations ... HCC jumped right in!



The OSG and CMS team, 2018

