HPC Documentation

Our Mission

UA High Performance Computing (HPC) is an interdisciplinary research center focused on facilitating research and discoveries that advance science and technology. We deploy and operate advanced computing and data resources for the research activities of students, faculty, and staff at the University of Arizona. We also provide consulting, technical documentation, and training to support our users.

This site is divided into sections that describe the High Performance Computing (HPC) resources that are available, how to use them, and the rules for use.

Faster Speeds Need Faster Computation - Hypersonic Travel

Professors Christoph Hader, Hermann Fasel, and their team are exploring the use of our GPUs to optimize Navier-Stokes codes for simulating the flow field around hypersonic vehicles traveling at six times the speed of sound (Mach 6), or more.

In this image, instantaneous flow structures obtained from a DNS for a flared cone at Mach 6 are visualized using Q-isocontours colored with instantaneous temperature disturbance values. The small scales towards the end of the computational domain indicate the regions where the boundary layer is turbulent.
Quick News

Reminder - Upcoming Scheduled Maintenance
HPC downtime scheduled on 2022-04-27, 06:00 thru 2022-04-27, 18:00 for quarterly maintenance.

We only keep a reasonably current version of Singularity. Prior versions have been removed. Only the latest one is considered secure. Singularity is installed on all of the system's compute nodes and can be accessed without using a module. Singularity will be renamed Apptainer as the project is brought into the Linux Foundation. An alias will be created so you can continue to invoke "singularity".

2022 WiDS Tucson
Advancing Women in Data Science
April 22, 2022 9:00 am - 4:30 pm
Virtual Event
- Register by April 21, 2022

Have you tried Puma yet? Our latest supercomputer is larger, faster and has bigger teeth than Ocelote (ok, maybe not the last bit). Puma Quick Start

Since we upgraded Ocelote it has the same software suite as Puma. It is generally not as busy as Puma. So if your work does not need the capabilities of Puma, consider using Ocelote instead. This applies to GPU's also, if the P100s will work for you.

Now that we are into the second year of use, we have determined that we can increase the standard allocation. From the end of April 2022 the standard allocation of cpu hours is increased from 70,000 to 100,000.

Anaconda is very popular and is available as a module. It expands the capability of Jupyter with Jupyter Labs; includes RStudio, and the Conda ecosystem. We recommend you access it through OnDemand and the Ocelote or Puma Desktops. See these instructions.

As a note, Anaconda likes to own your entire environment. Review those instructions to see what problems that can cause and how to address them.

Quick Links

Calendar
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 Apr 2022</td>
<td>Maintenance downtime is scheduled from 6AM to 6PM on April 27 for ALL HPC services</td>
</tr>
<tr>
<td>26 Jan 2022</td>
<td>Maintenance downtime is scheduled from 6AM to 6PM on January 26 for ALL HPC services</td>
</tr>
<tr>
<td>28 Jul 2021</td>
<td>Maintenance downtime is scheduled from 6AM to 6PM on July 28 for ALL HPC services</td>
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<tr>
<td>12 Jul 2021</td>
<td>El Gato will be taken down for scheduled maintenance from July 12th through August 1st. Following maintenance, it will use SLURM as its scheduling software and have the same software image and modules as Ocelote and Puma.</td>
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<tr>
<td>01 Jun 2021</td>
<td>Ocelote will be taken down for scheduled maintenance from June 1st through June 30th. During that time, its OS will be updated to CentOS 7 and its scheduler will be migrated to SLURM.</td>
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<tr>
<td>27 Jan 2021</td>
<td>Maintenance downtime is scheduled from 6AM on January 27th through 6PM on January 28th for ALL HPC services</td>
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