What Linux systems are available?

Scope

This document describes the School of Informatics and Computing Linux systems that are available for use via console/gui logins and remote ssh logins. This includes only the Unified Linux Systems owned and managed by the school for general use by all SoIC faculty, staff, and students. There are many other standalone and grant-purchased systems that are not part of the common pool of available Linux systems and, therefore, are not included here. If you have any questions about the availability and use of any of these systems, please contact us.

IU/IUTS Research Systems

Please keep in mind that there are many non-SoIC research systems available to all IU researchers. This includes various large computing and storage systems, including Big Red II, Karst, Mason, and the Scholarly Data Archive (SDA) that we encourage you to take advantage of. See the Research System Knowledge Base Page and the UITS Research Technologies Homepage for further information about these systems.

Linux Account Information

You can find out if you have an account on the unified Linux systems and get detailed information about your account here:

How do I get detailed information about my Linux accounts?

Linux System Information

You can also get detailed information about any linux system by running the `config` command from any shell prompt.

Account Domains

Accounts on these Linux systems are organized by the following password domains:

- **Burrow** - The Burrow systems are available to all SoIC faculty, staff, and students (both graduate and undergraduate students in CS or Informatics) as well as non-SoIC students who are taking CS or Informatics classes requiring use of these systems. Accounts are created automatically for all SoIC graduate students and for undergraduate students taking certain SoIC classes. If you are a faculty, staff, or undergraduate student in the CS or Informatics program and do not already have a Burrow account, you can request an account using the Help Desk. Note that account requests for non-SoIC students should come from the instructor of the class using these systems.

- **Sharks** - The Sharks systems are available to all SoIC faculty, staff, and graduate students (CS and Informatics). Access can also be granted to undergraduate and non-SoIC students and guests with sponsorship by a member of the SoIC faculty. Accounts are created automatically for all SoIC graduate students (CS and Informatics); Accounts for other users can be created by having the faculty sponsor make the account request using the Help Desk.

- **RI Cluster** - The RI Cluster systems are available to SoIC faculty and staff (by request) and to all SoIC students with sponsorship of a member of the SoIC faculty. Account requests can be submitted by the sponsoring faculty member using the Help Desk. If you are a current SoIC student and don’t have a sponsoring faculty member for your work, just let us know what you plan to use the cluster for in your account request. This equipment was purchased as part of a $2.1M NSF Research Infrastructure grant. Basic cluster usage information is available in the KB page How do I use the RI cluster systems?

- **iris/cat** - ILS maintains login servers iris and cat. Iris is available to those currently taking SOIC graduate level courses. Cat is reserved for faculty/staff. These hots provide command line access and mount ILS Linux home directories.

- **Ella/Info** - ILS maintained web servers. Include support for perl,php, etc. (running as user). Ella is for use by those currently enrolled in SOIC graduate level courses. Info is for faculty, staff and professional associations.
  - Accounts for the above listed ILS servers are generated based on enrollment data provided by the registrar near the start of each semester.
  - Web based tools to kill one's own runaway scripts and to view one's own error logs are pre-loaded into users' web accounts – password protected behind a secure login.
Caveats and Tips

These systems are shared resources that are used by many people. While there are few limitations on their use, please use them in a way that minimizes your overall impact on other users. For example, limit the number of simultaneous CPU or memory intensive process, kill runaway processes, and use `nice` for long-running processes that consume a lot of CPU cycles. For more information about viewing and killing processes as well as using `nice` to adjust a processes priority, please see the following KB page:

How do I view, kill, or nice processes I have running on a Linux system?

When using Linux systems remotely, you may find that the `screen` utility is a very convenient way to start a process, detach from it (leaving it running), and then reattach later on. Basic information about using `screen` is available in the following KB page:

How do I use screen on the Linux systems?

Also note that there is a wide array of software available on the unified Linux systems. Please see the following KB page for information about the installed software and how to request the installation of new software:

How do I get new or updated software installed on the unified Linux systems?

Various storage space is accessible from these unified Linux systems. Please see the following KB page for information about the available storage space:

What data storage space is available on the unified Linux systems?

Available Systems - Remote Use

There are a number of central servers available for remote use. Login access to these systems is via ssh. See the KB page SSH Remote Logins and File Transfer to Linux Servers for more information about the available SSH client tools.

- **burrow.soic.indiana.edu** [Burrow Domain] - If you are looking for a system to use in the Burrow domain, you can use the alias `burrow.soic.indiana.edu`. This alias will take you to an appropriate Burrow system so you don't have to worry about what specific system to use. Currently, this will take you to the system named silo so see the listing below for silo to get further information and usage limitations.

- **sharks.soic.indiana.edu** [Sharks Domain] - If you are looking for a system to use in the Sharks domain, you can use the alias `sharks.soic.indiana.edu`. This alias will take you to an appropriate Sharks system so you don't have to worry about what specific system to use. Currently, this will take you to the system named tank so see the listing below for tank to get further information and usage limitations.

- **silo.soic.indiana.edu** [Burrow Domain] - Silo is a dual-socket, 12-core (24 total cores) Intel Xeon system with 512GB of memory running 64-bit Red Hat Enterprise Linux. In order to limit runaway processes and misuse, the system limits users to 30 simultaneous logins, 500 total processes, and 32GB of total virtual memory. Please keep in mind that this system is used by many people so running large, CPU intensive processes here is discouraged.

- **tank.soic.indiana.edu** [Sharks Domain] - Tank is a dual-socket, 8-core (16 total cores) Intel Xeon system with 256GB of memory running 64-bit Red Hat Enterprise Linux. In order to limit runaway processes and misuse, the system limits users to 30 simultaneous logins, 500 total processes, and 64GB of total virtual memory. Please keep in mind that this system is used by many people so running large, CPU intensive processes here is discouraged.

- **hulk.soic.indiana.edu** [Sharks Domain] - Hulk is a quad-socket, 8-core (32 total cores) AMD Opteron system with 512GB of memory running 64-bit Red Hat Enterprise Linux. In order to limit runaway processes and misuse, the system limits users to 30 simultaneous logins, 1000 total processes, and 256GB of total virtual memory.

- **Odin Cluster (odin.cs.indiana.edu)** [RI Cluster Domain] - The Odin cluster consists of 128 dual-socket, 2-core (4 total cores/node) AMD Opteron systems with 4GB of memory per node running 64-bit Red Hat Enterprise Linux. The Odin cluster nodes are connected via Gigabit Ethernet and Infiniband networks. If you plan to use this cluster, please see How do I use the RI Odin cluster? for information about proper use of this resource.

- **idun.cs.indiana.edu** [RI Cluster Domain] - Idun is a quad-socket, 4-core (16 total cores) AMD Opteron system with 16GB of memory running 64-bit Red Hat Enterprise Linux. Anyone with an account in the RI Cluster Domain can use this system and there are no job scheduling restrictions. As a result, system load can vary widely so consistent timings may be difficult.

- **Graduate Labs** [Shark Domain] - If you are faculty, staff, or graduate student and are doing experimentation that requires the use of more machines than are available using the above systems then you can use the machines in the open graduate student labs (Lindley Hall Room 112 and Informatics West Room 010). Just keep in mind that there may be people using these machines at the console so try...
to use those machines in a way that won't interfere with interactive use. In other words, limit use to jobs that are not memory intensive and nice your processes. In order to get a list of the computers in these labs, just go to the hardware database listings of systems in Lindley Hall 112 and Informatics West 010.

- **Burrow Labs [Burrow Domain]** - If you are faculty, staff, graduate student, or undergraduate student doing experimentation that requires the use of more machines than are available using the above systems then you can use the machines in the Burrow labs (Lindley Hall Rooms 004 and 035). Just keep in mind that there may be people using these machines at the console so try to use those machines in a way that won't interfere with interactive use. In other words, limit use to jobs that are not memory intensive and you **must n**

  ice your processes (and use a niceness of 19). Keep in mind that if your process uses a large percentage of available RAM (say, greater than 4GB on a system with 16GB or memory) then you will likely have a significant impact on interactive users no matter that you have your process niced. If you are using a lot of memory then please do not use these systems but, rather, look into the other available servers, including the UITS Research Systems. In order to get a list of the linux computers in these Burrow labs, just go to the hardware database listings of systems in Lindley Hall 004, Lindley Hall 008 and Lindley Hall 035.

- **IU/UITS Systems** - Please note that there are other quite significant Linux computing resources available through UITS and you are strongly encouraged to use them. See the Research System Knowledge Base Page and the UITS Research Technologies Homepage for further information.

### Available Systems - Local Console/GUI Use

In addition to the Linux systems in the various individual and shared offices, there are a number of systems available in various labs within the school.

- **Burrow Labs (LH004 and LH035) [Burrow Domain]** - There are 8 Linux systems available to undergraduate and graduate students in Lindley Hall room 004 and another 20 in Lindley Hall room 035. In order to get a list of the computers in this lab, please see the hardware database listings of systems in Lindley Hall 004 and Lindley Hall 035. Card access to these rooms can be granted to anyone with a Burrow account by taking your IU ID card to Lindley Hall 215.

- **Lindley Hall Graduate Lab (LH112) [Shark Domain]** - There are 8 Linux systems available to graduate students in Lindley Hall room 112. In order to get a list of the computers in this lab, please see the hardware database listing. Card access to this room is limited to SoIC graduate students (CS and Informatics) and can be granted by taking your IU ID card to Lindley Hall 215.

- **Informatics West Graduate Lab (Info West 010) [Shark Domain]** - There are 2 Linux systems available to graduate students in Informatics West room 010. In order to get a list of the computers in this lab, please see the hardware database listing. Card access to this room is limited to SoIC graduate students (CS and Informatics) and can be granted by submitting a service request using the Help Desk.