Software and Services

This should be a list of ALL software products created and/or supported by NCSA! Please contribute! 2017 list is here.

- **BrownDog** - A prototype Data Transformation Service (DTS) built on Clowder and Polyglot
  - *Innovation(s): Transformations as a Service, Sharing data transformation capabilities*
- **Cactus** - Open source problem solving environment designed for scientists and engineers, with a modular structure that easily enables parallel computation across different architectures and collaborative code development between different groups
- **CILogon** - Federated identity and access management for science collaborations
- **ClassTranscribe** - Rob Kooper
- **Clowder** - An opensource, broadly customizable, web based content management system supporting an analysis and metadata enrichment via its extraction bus
  - *Innovation(s): Active curation, Automatic metadata enrichment, open source broadly customizable data management*
- **COmanage** - An Identity Management System (IdMS) designed for collaborative organizations
- **CoverCrop** - Christopher Navarro
- **Crops in Silico** - Meagan Lang Sara Lambert Michael Bobak
- **DataWolf** - Web based scientific workflow system
  - *Innovation(s): Models as a Service, scientific reproducibility, scientific workflows*
- **DES Labs -** Suite of web apps and tools to access, analyze and visualize data from astronomical surveys to speed the scientific discovery process
- **DigiPath_MLTK** - package module to prepare clinical tissue slide images for machine learning, by leveraging the openslide library for usage with tensorflow 2.0.
- **easyaccess** - SQL command-line interpreter for astronomical surveys
- **Eclipse PTP** - Eclipse plugin supporting the development and debugging of parallel tools on various HPC resources
- **EIF** - Extended Isolation Forest for Anomaly Detection
- **Einstein Toolkit** - Community-driven software platform of core computational tools to advance and support research in relativistic astrophysics and gravitational physics
- **ERGO** - Hazard modeling and management service allowing responders to rapidly address emergency scenarios (e.g. earthquakes, tornadoes, fires, etc.)
- **Euler** - Open source toolkit, mostly written in Python, for merging taxonomies and visualizing the results
- **Farmdoc** - Open source, web-based farm program decision support tools for farmers, academics and policymakers.
- **flimview** - Python package for analysis of FLIM images in collaboration with COMI Lab
- **GeoDashboard** - Customizable portal allowing users to navigate, download, and visualize field sensor data
- **GSI-OpenSSH** - GSI-OpenSSH is a modified version of OpenSSH that adds support for GSI authentication and credential forwarding (delegation), providing a single sign-on remote login and file transfer service
- **ISLET** - Isolated, Scalable, & Lightweight Environment for Training
- **Keras Spatial** - Aiman Soliman
- **Kurator** - Provenance-enabled workflow platform and toolkit to curate biodiversity data
- **Mayomics** - The best practices genomic variant calling workflow implemented in Cromwell/WDL for a production clinical environment.
- **MyProxy** - Software for managing X.509 Public Key Infrastructure (PKI) security credentials (certificates and private keys)
- **NDS Workbench** - “App Store” for data management and analysis tools
- **NEST** - Colleen Bushell Matt Berry
- **Omix** - Colleen Bushell Matt Berry
- **Parsl** - A parallel scripting library for Python
  - *Innovation(s): Scientific reproducibility, scientific workflows*
- **PEcAn** - Gateway for Ecological modeling & sensitivity analysis
  - *Innovation(s): Ecological forecasting*
- **Partiview** - Stuart Levy
- **Polyglot** - “Universal" distributed file format conversion capabilities as a service
  - *Innovation(s): Imposed Code Reuse*
- **psync** - Parallel synchronization for locally mounted file systems
- **ServiceX** - Benjamin Galewsky
- **SKOPE** - Provides Synthesized Knowledge of Past Environments to diverse research communities
- **WIX** - Colleen Bushell Matt Berry
- **Whole Tale** - Infrastructure to help enable researchers to examine, transform, and then seamlessly republish research data that was used in an article
  - *Innovation(s): Software publication, scientific reproducibility*
- **Virtual Director** - Virtual reality interface that enables gestural motion capture and voice control of navigation, editing, and recording in the CAVE, ImmersaDesk, and Infinity Wall
- **vizic** - A Jupyter-based Interactive Visualization Tool for Astronomical Catalogs
- **XRAS**- Web-based resource allocation and user management software used in XSEDE
- **YesWorkflow** - Brings scientific workflow modeling and provenance management to scripting languages
- **yt** - Open-source, permissively-licensed python package for analyzing and visualizing volumetric data
- **ytini** - Visualization middleware between yt (above) and the visual effects software, Houdini; allows Houdini to read and render various scientific data formats.
- **Zeek** - Network analysis framework and Intrusion Detection System
- **3D Utilities** - Library of 3D file format data loaders (leveraging NCSA Portfolio)

Legacy

- **Census Data Portal** - Portal to index and access the handwritten contents of the digitized 1930s and 1940s census data
- **Conversion Software Registry** - Online database of software according to file formats they open/save
- **Daffodil** - Open source implementation of Data Format Description Language (*now Apache project*)
  - *Innovation(s): Machine readable data format descriptions*
- **D2K** - Colleen Bushell (*spun off commercially*)
- **Doc2Learn** - Functionality to do side-by-side visual as well as automatic comparisons of documents

- **Habanero** - A collaborative framework and environment containing a set of applications to use, and APIs to convert applications into collaborative applications
- **HDF** - A set of portable scientific data file formats designed to store and organize large amounts of data (*spun off as not-for-profit*)
- **httpd** - Early web server, powered most of the web as of August 1995 (*now Apache project*)
- **Im2Learn** - Image analysis library
- **Ip2Learn** - Simulation framework that is designed for understanding preservation and reconstruction archival requirements for a class of decisions based on image inspection.
- **MarketMaker** - Dashboard to manage local food production/distribution (*spun off commercially*)
- **NCSA Mosaic** - The first popular web browser (*spun off commercially*)
- **PerfSuite** - A collection of tools, utilities, and libraries for software performance analysis where the primary design goals are ease of use, comprehensibility, interoperability, and simplicity
- **NCSA Portfolio** - A 3D library for building applications
- **SP2Learn** - Framework for accurate estimation of geospatial models from sparse field measurements using image processing and machine learning
- **NCSA Telnet** - The first implementation of the telnet protocol for the Macintosh or a PC that provided the ability to connect to multiple hosts simultaneously
- **Tupelo** - Data and metadata management system based on semantic web technologies
    - *Innovation(s): Semantic web*
- **Versus** - Distributed framework for storing and serving up components for content based comparisons
    - *Innovation(s): Composable content based comparisons*

Service Model Efforts

- ICI Services
- SSA Services