**Introduction**

Funded by the NIH Blueprint for Neuroscience Research, NIBIB, NIDA, NIMH, and NINDS (1), the NITRC family of services has expanded to support the MR, imaging genomics, EEG/MEG, PET/SPECT, CT, optical imaging, and clinical neuroinformatics communities. These services include:

1. NITRC Resources Repository (NITRC-R), the “go to” collaboration environment that enables the distribution, enhancement, and adoption of neuroimaging tools and resources.
2. NITRC Image Repository (NITRC-IR), a curated repository of NIfTI-1 images searchable by metadata such as handedness, gender and group including ADHD-200, 1000 Connectomes, ABIDE, CandidShare Schizophrenia.
3. NITRC Computational Environment (NITRC-CE), a virtual big data compute service pre-configured with popular neuroimaging software analysis tools allowing pay-as-you-go compute time on AWS Marketplace.

**Approach**

NITRC’s scientific scope MR, PET/SPECT, CT, EEG/MEG, optical imaging, clinical neuroinformatics, imaging genomics, and most recently, computational neuroscience. The NITRC team expanded its capabilities to support image data sharing and computation. In support of enhanced data sharing, NITRC provides an Image Repository (NITRC-IR) which is built upon XNAT and supports both NIfTI and DICOM images. In this era of ever-mounting shared data resources, neuroimaging scientists and researchers are becoming more challenged to secure sufficient computational resources to execute complex computational analysis on these large data resources. Using AWS EC2, and leveraging NeuroDebian, we produced and released the NITRC Computational Environments (NITRC-CE) and NITRC CE for Cluster Compute Instances via the AWS Marketplace (2). NITRC-CE is an on-demand, cloud based computational virtual machine pre-installed with popular NITRC neuroimaging tools. A public Amazon Machine Instance (AMI) is also available. We encourage the neuroimaging community to continue to provide on-line feedback on NITRC neuroimaging tools, their design, tools, resources, and content and visit our conference booths at SFN, CNS, and OHBM.

**Results**

With over 3.2 million page views and 747,000 visits by 335,200 unique visitors, NITRC-R facilitates access to an ever growing number of neuroinformatics tools and resources (630). Averaging 50,800 visits and 76,800 pageviews per month, software from NITRC-R has been downloaded over 922,000 times. NITRC-IR offers 4,800 Subjects searchable across 9 projects to promote re-use and integration of these valuable shared data. NITRC-CE provides simplified deployment of cloud-based computation that supports FreeSurfer, FSL, AFNI and many other software resources. In real-world processing tests, a representative computation that would take 24 hours on a high-powered desktop took 25% of the time (8 hours) at a cost of only $4. The test was a FSL voxel-based morphometry (VBM) computation on 64 subjects from CANDiShare run on a 2.8 GHz Intel Xeon Mac desktop versus AWS Large instance (m1.large) using SGE parallelization over 4 cores.

**Summary**

Continually updated with new content, data, and services, we encourage the neuroimaging informatics community to continue to use and provide feedback. NITRC has established itself as a key resource where previously funded tools and resources are presented in a coherent and synergistic environment proven to help facilitate the advancement of neuroscience research. We encourage the dementia research community to continue providing design and content feedback and to utilize these resources in support of data sharing requirements, software dissemination and cost-effective computational performance. With its recent expansion into imaging genomics, NITRC aims to become the ‘trusted source’ for identification of resources in this highly active and promising domain bridging advanced neuroimaging and genomics.