

## Benefits of NMRbox for Developers

The NMRbox platform delivered by the Center for Biomolecular NMR Data Processing and Analysis simplifies development, support, collection of usage metrics, and provides persistence:



### Single Platform

OS fragmentation is no longer a problem, simplifying development and support. The single target OS (Xubuntu) distributed as a VM runs everywhere. Access NMRbox as a Platform-as-a-Service, hosted on our servers, via a free VNC client, or download NMRbox for local execution.

### Zero-Configuration

Software developers no longer have to guide their prospective users through potentially complicated installation and configuration tasks. NMRbox comes fully provisioned and configured.

### Discovery

A searchable software registry describes each installed package, including primary citations, a table of versions included in each NMRbox release, and links to BMRB entries citing the software.

### Usage Metrics

The Center collects de-identified usage data and reports these metrics to software developers so that they may meet grant-funded reporting requirements.

### Persistence

Software captured by NMRbox will be made available through the Center's archive. Software that is no longer actively developed remains accessible, long after OSes, programming languages, or hardware become obsolete.

### Reproducibility

A version-controlled archive of NMRbox releases ensures that the exact computational environment used in a study can be recapitulated.

### Community

The NMRbox user community will be engaged through workshops, tutorials, forums, and email lists.

### Developer Tools

Dedicated VMs for development and testing, and simplifying depositions to NMRbox.

### Computational Resources

A dedicated cloud provides developers and end-users with powerful, free parallel computing via shared-memory, distributed, and GPU-accelerated models.

### Availability

Redundant high-bandwidth network connections and geodispersed hierarchical file storage offer high performance and secure access to programs and data.

### Support

The Center works with developers to migrate packages into NMRbox, including development of unit tests to validate the correct operation of each software package.

*Think inside the box.*