

Monash Large Research Data Store (LaRDS)

Network Drive services (LaND)

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Overview

The Monash *Large Research Data Store (LaRDS)* provides, amongst other things, a range of “Network Drive” services. Collectively these are known as the *LaRDS Network Drive (LaND)* services. A range of services is available for different applications, some being suitable for each client workstation environment:

- Windows; Mac; Linux

Some LaRDS LaND services are based on open internet standards, some use vendor proprietary methods. Some are restricted to within the Monash network for security reasons, some can traverse externally. Some are restricted to Monash users, some can be accessed by external collaborators.

Some can access the same data as each other, some cannot. From this point-of-view, the LaND services are divided into three categories:

- Novell; Common; Stand-alone

Each of the ‘flavours’ of LaRDS LaND are introduced below, and the current capabilities of each are summarized in Table 1.

LaRDS is available to all Monash staff and HDR students

LaRDS is secure and reliable

All LaRDS services are aimed at *workgroup* applications, i.e. not accessible by *unauthorized* people outside your research team. Services can be configured for *individuals* (i.e. the case of a workgroup of size 1). While some LaRDS services can be configured to provide public access, that is never the default, and in general the LaND services *cannot* be configured for public access. Thus all data has the level of access security the end-user nominates. All data held in LaRDS is backed-up to tape across multiple geographically diverse data centres.

LaRDS LaND services – Choose when...

LaRDS Novell Network Drive (‘R:\’ drive)

The LaRDS Novell Netware R:\¹ drive is a fully supported ITS production service. Local IT staff can assist as for other Novell services. The LaRDS R:\ drive operates the same as a combination of the Novell U:\ and V:\ network drive services, i.e. can provide areas for *individuals* to store data and for *workgroups* to store and share data. Use **LaRDS Novell** when you:

- want a fully supported production service;
- have a Windows PC, with a standard Monash SOE build, and/or the Netware client has been loaded;
- have a Mac, with the Netware client loaded;
- want access to *on-line* data, but **not** to the LaRDS *near-line* archive store;
- do **not** have non-Monash collaborators;
- may want access from any web browser anywhere:

Novell NetStorage – web access

You can also access your LaRDS Novell R:\ drive from any web browser, from any type of workstation (inc. Linux), from anywhere in the world (inc. internet café). You do not need to have the Netware client loaded. Indeed, [NetStorage](#) can be your sole way of accessing your LaRDS Novell drive, should you so desire. NetStorage provides web access, but **not** full ‘mapped network drive’ functionality.

LaRDS NFS (Network File System) ‘mount’

LaRDS NFS is a fully supported ITS production service. Unix or Linux servers or groups of workstations can have a LaRDS NFS ‘mount’. This allows individuals or groups of people to store and share data. Use **LaRDS NFS** when you:

- have a Unix/Linux server, or a group of Unix/Linux workstations;
- want to share data between Unix/Linux and Windows or Mac workstations;
- want to share data with the Monash Campus Grid;
- want access to the LaRDS *on-line* and/or *near-line* stores;
- your Unix/Linux server/workstations are within the Monash network in Australia.

Monash Campus Grid

The [Monash Sun Grid](#) (MSG) and [Monash Green SPONGE](#) high performance computing (HPC) services use **LaRDS NFS** as their sole means of storing all user data. Thus, these HPC systems provide a Unix **login** style of access to LaRDS.

¹ If the R:\ drive letter has already been used on your PC, the LaRDS Netware drive can easily be ‘re-mapped’ to any available drive letter.

LaRDS SSH-FS

We are currently trialling the use of SSH-FS. Use **LaRDS SSH-FS** when you want the one solution that:

- works for Windows, Mac and Unix/Linux workstations;
- works within the Monash network or anywhere external to the Monash network;
- supports Monash and non-Monash users alike;
- provides access to the LaRDS *on-line* and/or *near-line* stores;
- provides encryption for usernames, passwords and all data passed over the network;
- fully open-standards (internet-standards) based.

LaRDS Samba/CIFS

LaRDS Samba provides connection between LaRDS and Microsoft network file sharing. Use **LaRDS Samba** when you:

- have your own adequately performing local MS Windows server;
- want to share data between Unix/Linux and Windows or Mac workstations;
- want to be able to add your own non-Monash users or configure your own groups;
- want access to the LaRDS *on-line* and/or *near-line* stores;
- do **not** want access from outside the Monash network in Australia;
- want to avoid having the Novell Netware client loaded on your workstation.

LaRDS Sakai

[Sakai](#) is an all-in-one web collaboration tool and includes a data storage and sharing facility similar to [NetStorage](#). With Sakai you can easily set up your own groups and access controls. Use **LaRDS Sakai** when you:

- want web access (from any workstation anywhere) to a data storage and sharing facility;
- want to easily set up your own groups and file access controls;
- want to use other web collaboration functions as well as data storage and sharing;
- do **not** want to have direct access to the same data from any other LaRDS interface.

LaRDS Mediaflux Desktop

[LaRDS Mediaflux](#) is an open standards (XML) based digital asset management system for storing audio, video, image, document or any other file types. Mediaflux allows you to organize your digital assets into nested collections, and to add descriptions (metadata) and annotations to your digital objects. Mediaflux Desktop is an easy-to-use generic web-based interface, similar to MS Windows Explorer. Use **LaRDS Mediaflux Desktop** when you:

- want web access (from any workstation anywhere) to a data storage, management and sharing facility;
- want to add descriptive metadata and annotations to your digital objects;
- want to be able to search through your files via their metadata and annotations;
- want to easily transfer your digital assets to the Monash ARROW institutional repository.

Table 1: LaRDS LaND services comparison – current status (July 2009)

LaND service:	Netware	Net Storage	Samba / CIFS	NFS [1]	SSH-FS	Mediaflux Desktop	Sakai VRE
<i>service attributes:</i>							
Sharing category	Novell	Novell	Common	Common	Common	Common	Stand alone
Status	prodn	prodn	pilot	prodn	pilot	pilot	pilot
Full Network Drive	✓		✓	✓	✓	via WebDav	via WebDav
Windows	✓	✓	✓		✓	✓	✓
Mac	✓	✓	✓		✓	✓	✓
Linux		✓	✓	✓	✓	✓	✓
On-line store	✓	✓	✓	✓	✓	✓	✓
Near-line store			✓	✓	✓	✓	
Account creation	on request	on request	on request	on request	on request	on request	via Authcate
External users			(manual)	(manual)	✓	(manual)	✓
Federated authentication					✓		
External access [2]	(via VPN)	✓	(via VPN)	(via login) [3]	✓	✓	✓
Web access		✓		(via FTP GUI)	(via FTP GUI)	✓	✓
Metadata management						✓	

Notes:

[1] The Monash Sun Grid (MSG) and Monash Green SPONGE high performance computing (HPC) services use LaRDS for all user data storage, via the LaRDS NFS interface. Thus, these HPC systems provide a unix login style of interface to LaRDS.

[2] VPN is not recommended for high performance. VPN is not available for non-Monash users.

[3] NFS: users can remotely login to a LaRDS-attached Unix/Linux server (by using SSH), but the server must itself be within the Monash network in Australia.