

Logging with the Linux syslog facility

Logging should be done whenever possible with the syslog facility. This allows remote logging, efficient and easy filtering and automatic processing. New applications / scripts which are intended to run as daemons should be written with syslog in the first place. Existing applications should be redirected to syslog using e.g. `initlog`.

syslog facilities

A "facility" in syslog is a class of messages. It must be kept distinct from the syslog levels (`LOG_EMERG`, `LOG_ERR`, `LOG_DEBUG` etc...). Facilities represent distinct streams and as such can be redirected separately to different destinations, in particular to distinct files. Syslog on Linux supports various facilities, all of which are listed in the table below. In LHCb we have a convention which facility is used for which (class of) daemon process. In principle only the `local0` to `local7` facilities are supposed to be used for user applications. However many of the traditional ones are completely obsolete nowadays and can thus be reused. The table also lists the (class of) daemon processes to use and to which file they will be redirected.

Facility	Process class	File
<code>LOG_NEWS</code>	all network devices (switches)	<code>/var/log/network</code>
<code>LOG_UUCP</code>	all storage devices and processes	<code>/var/log/storage</code>
<code>LOG_LOCAL0</code>	reserved	
<code>LOG_LOCAL1</code>	DIM dns	<code>/var/log/dnsd</code>
<code>LOG_LOCAL2</code>	SPECS server	<code>/var/log/specs</code>
<code>LOG_LOCAL3</code>	CCSERV	<code>/var/log/ccserv</code>
<code>LOG_LOCAL4</code>	dhcpd	<code>/var/log/dhcpd</code>
<code>LOG_LOCAL5</code>	other processes (e.g. Muon HV DIM server)	<code>/var/log/</code>
<code>LOG_LOCAL6</code>	reserved	
<code>LOG_LOCAL7</code>	used for bootlogs on Linux	

Facilities not listed here should not be used, as the messages will be mixed up with (important) system processes

syslog & logrotate configuration

If the application is not syslog aware the rpms should make sure that `initlog` starts them with the correct facility. Applications should **not** configure syslog or logrotate. On diskless nodes, all messages will be forwarded to the corresponding controls-pc. On the controls PC syslog will be configured by Quattor accordingly. Each file created by syslog **must** be treated by logrotate.

Some important log messages of control PCs could be forwarded also to a central logserver (to be created).

syslog and Windows

Peter has pointed out several interesting possibilities for logging Windows. This is currently not implemented. The Windows daemons should be mapped to the same facilities as their Linux counterparts.

Eventlog to Syslog Service for Windows :

<https://engineering.purdue.edu/ECN/Resources/Documents/UNIX/evtsys>

Syslog filtering : <http://www.netadmintools.com/art127.html>

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