device-mapper uevent

The device-mapper uevent code adds the capability to device-mapper to create and send kobject uevents (uevents). Previously device-mapper events were only available through the ioctl interface. The advantage of the uevents interface is the event contains environment attributes providing increased context for the event avoiding the need to query the state of the device-mapper device after the event is received.

There are two functions currently for device-mapper events. The first function listed creates the event and the second function sends the event(s):

```
void dm_path_uevent(enum dm_uevent_type event_type, struct dm_target *ti,
                    const char *path, unsigned nr_valid_paths)

void dm_send_uevents(struct list_head *events, struct kobject *kobj)
```

The variables added to the uevent environment are:

Variable Name: DM_TARGET

Uevent Action(s):	KOBJ_CHANGE
Type:	string
Description:	
Value:	Name of device-mapper target that generated the event.

Variable Name: DM_ACTION

Uevent Action(s):	KOBJ_CHANGE
Type:	string
Description:	
Value:	Device-mapper specific action that caused the uevent action. PATH_FAILED - A path has failed; PATH_REINSTATED - A path has been reinstated.

Variable Name: DM_SEQNUM

Uevent Action(s):	KOBJ_CHANGE
Type:	unsigned integer
Description:	A sequence number for this specific device-mapper device.
Value:	Valid unsigned integer range.

Variable Name: DM_PATH

Uevent Action(s):	KOBJ_CHANGE
Type:	string
Description:	Major and minor number of the path device pertaining to this event.
Value:	Path name in the form of "Major:Minor"

Variable Name: DM_NR_VALID_PATHS

Uevent Action(s):	KOBJ_CHANGE
Type:	unsigned integer
Description:	
Value:	Valid unsigned integer range.

Variable Name: DM_NAME

Uevent Action(s):	KOBJ_CHANGE
Type:	string
Description:	Name of the device-mapper device.
Value:	Name

Variable Name: DM_UUID

Uevent Action(s):	KOBJ_CHANGE
Type:	string

Description: UUID of the device-mapper device.
Value: UUID. (Empty string if there isn't one.)

An example of the uevents generated as captured by udevmonitor is shown below

1.) Path failure:

```
UEVENT[1192521009.711215] change@/block/dm-3
ACTION=change
DEVPATH=/block/dm-3
SUBSYSTEM=block
DM_TARGET=multipath
DM_ACTION=PATH_FAILED
DM_SEQNUM=1
DM_PATH=8:32
DM_NR_VALID_PATHS=0
DM_NAME=mpath2
DM_UUID=mpath-35333333000002328
MINOR=3
MAJOR=253
SEQNUM=1130
```

2.) Path reinstate:

```
UEVENT[1192521132.989927] change@/block/dm-3
ACTION=change
DEVPATH=/block/dm-3
SUBSYSTEM=block
DM_TARGET=multipath
DM_ACTION=PATH_REINSTATED
DM_SEQNUM=2
DM_PATH=8:32
DM_NR_VALID_PATHS=1
DM_NAME=mpath2
DM_UUID=mpath-35333333000002328
MINOR=3
MAJOR=253
SEQNUM=1131
```