Device Virtualization

Purpose of the Activity	The ultimate goal is to define common device driver I/F for AGL so as to keep common SW stack above driver across different HWs, SoCs, Devices. With ongoing standardization in the server and cloud industry around VirtIO, the de-facto standard VirtIO is considered to be the best candidate for a kernel-user space API (common device driver I/F) standardization in AGL. This spreadsheet is to be used to prioritize selected device drivers for AGL.
Priority for AGL	https://docs.google.com/spreadsheets/d/1jpLNUBKz19LOdtGyqan5Wk4OgZFFxUNcSpMrFMPFCKI/edit#gid=1231808174

Device	VirtIO Device	Linux Kernel Version	OASIS Specification	Linux Kernel Device Subsystem	IC-EG Priority	IVI-EG Priority	Virt-EG Priority	V2C-EG Priority	RHSA-EG Priority	Total Score	AGL Overall Priority
Input Device (e.g. touch)	virtio-input	v4.0-rc4	v1.1	evdev (Input Subsystem)	9	1	2	8	3	32	1
Display (Video Display Controller)	virtio-gpu(2d)	v4.1-rc4 (2d)	v1.1	DRM & KMS -> opengl/vulkan	1		4		1	27	2
GPU	virtio-gpu(3d)	v4.3-rc5 (3d)	v1.2	DRM & KMS -> opengl/vulkan	1		4		2	26	3
CAN bus	virtio-can	-	Spec RFC in virtio-comment ML	socket CAN	9		6	1	8	20	4
Block Device	virtio-blk	v2.6.23	v1.0	block subsystem (/dev/block)	1	2				19	5
Audio (microphone & speaker)	virtio-snd	v5.13	v1.2	ALSA	4		1		10	18	6
Ethernet	virtio-net	v2.6.23	v1.0	network subsystem	9	6		5	7	17	7
Bluetooth	virtio-bluetooth	-	-	Bluetooth subsystem (vitrio-bt has HCI IF)			7		6	9	8
SPI	virtio-console	v.2.6.23	v1.0	SPI subsystem	9	5				8	9
Serial console	virtio-console	v.2.6.23	v1.0	tty/serial interface		3				8	9
SCMI (Sensors, Clocks /Regulators, Performace ...)	virtio-scmi	Upstreamed but under review (RFC v2)	v1.2	no specific interface to userspace at the moment (maybe can linked to industrial IO)			3	4		15	9

Reference Doc

2021-04-22 SAT virt EG.pdf

Device Specific Page