Instrument Cluster EG Feature Planning Lists

Y2023 (Under review till 2023/2/1)

10 point per person. You can vote point each Task ID. (ex. IC001 10 point, other 0 point is OK. IC-001 5 point, IC-002 3 point, IC-003 2point is OK)

Task ID	Task	Priority (for EG task)	Priority (need contractor)	JIRA	Confluence/Material	
IC-001	OSS assessment	2			[Architectural criteria of the reusing existing OSS](#)	7
~~IC-002~~	~~Change IVI guest from existing demo (MM version) to AGL IVI.~~				~~For CES demo?~~	
IC-003	Input device support inside a guest. touch, keyboard, vinput, etc.	9			https://static.sched.com/hosted_files/ossalsjp21/b1/AGL_ICEG_Activity_ALS2021.pdf p36,37	2
IC-004	Implement Container runtime, mangement (resource, lifecycle) Working by EG members (Not require to contractor)	7			Now develop in (TOODO.URL)	3
IC-005	HW overlay architecture (w/ drm lease, container) - blue print /white paper					

3. Window Manager – e.g. H/W Composite

IC-006	OSS reference implementation for the RTOS combinations. Rpy Pico? - Work by Tokita-san. Zephyr? FreeRTOS? RefHW? Contractor: ??	1			ICCOM_LF_Mentorship.pptx	2
IC-007	Yocto-multiconfig FAQ				Scott	
IC-008	Adding board support				The drm-lease-manager will support Rpi4, qemu maybe. IC integration extend to support these environment.	
IC-009	Network sharing				Host/guest routing (ip tables)	
IC-010	Instrument Cluster (Core system, which is minimal system for QM isolation uses LTS UCB) Working by EG members (Not require contractor)	10				1
IC-011	New IC components					
IC-012	Cross-domain buffer sharing mechanism between IC<IVI; IVI<RSE					
IC-013	Camera Support for AGL via PipeWire	5				4
IC-014	Multiple display configuration management in the Compositor					

Task ID	Task	Priority			Confluence/Material	Total
IC-xxx	Qt new desing and app instead of momi-apps (homescreen, map, music, etc.) New cluster design and new refgui app development.	3			AGL common design : Discuss in SAT, SC, AB. Cluster continue to use Qt? Flutter? other? New design : Change to Qt6. (Drop current RefGUI), IVI side (without momi) depend to SAT, SC, AB judge.	6
IC-xxx	AGL document page for IC profile					
IC-xxx	CAN signal demo integration	3			▪ CAN simulator/steering wheel as CAN input ▪ CAN signal linkage between handlers on RTOS and listers on Linux ▪ IC/IVI apps interact with CAN events	6
IC-xxx	Code coverage tool and CIAT report.	5			Req to CIAT?	4
IC-xxx	Finish audio support	7			▪ USB audio output from IVI guest ▪ Alert sound output from IC guest	3

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Vote deadline: Before than Mar. 11.

Task ID	Task	Priority (for EG task)	Priority (need contractor)	JIRA	Confluence/Material	Total Points
IC-001	OSS assessment	1			[Architectural criteria of the reusing existing OSS](#)	10
IC-002	Change IVI guest from existing demo (MM version) to AGL IVI.	2			For CES demo?	6
IC-003	Input device support inside a guest. touch, keyboard, vinput, etc.	3			https://static.sched.com/hosted_files/ossalsjp21/b1/AGL_ICEG_Activity_ALS2021.pdf p36,37	5
IC-004	Implement Container runtime, mangement (resource, lifecycle) Working by EG members (Not require to contractor)	3				5

ID	Description				Content	Priority
IC-005	HW overlay architecture (w/ drm lease, container) - blue print /white paper	5				4
IC-006	OSS reference implementation for the RTOS combinations.	5			ICCOM_LF_Mentorship.pptx	4
IC-007	Yocto multiconfig FAQ	7			Scott	3
IC-008	Adding board support	7			The drm-lease-manager will support Rpi4, qemu maybe. IC integration extend to support these environment.	3
IC-009	Network sharing	9			Host/guest routing (ip tables)	2
IC-010	Instrument Cluster (Core system, which is minimal system for QM isolation uses LTS UCB) Working by EG members (Not require contractor)	10				1
IC-011	New IC components					
IC-012	Cross-domain buffer sharing mechanism between IC<IVI; IVI<RSE					
IC-013	Camera Support for AGL via PipeWire					

The image in IC-005 contains:

3. Window Manager – e.g. H/W Composite

Multiple container DRM sharing shall be done by introducing DRM Lease Manager.
- GPU rendering/composition shall be done in application container, not container host.
- It allows application container to render directory to the DRM device.
- It ensures other containers can still display their HMI via Weston.
- It allows both types of containers to render to the DRM device in parallel.

IC-014	Multiple display configuration management in the Compositor				

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Task ID	Task	Priority (for EG task)	Priority (need contractor)	JIRA	Confluence/Material
IC-001	Maintain AGL Window Manager, Compositor, and Homescreen	13	11		
IC-002	Multi-seat support - Graphics				
IC-003	Waltham Refinements and improvements				
IC-004	Camera Support for AGL via PipeWire	10	8		
IC-005	Instrument Cluster(Compositor and Windowmanager in privileged) Including the drm lease work	-		-	-
IC-005.1	Implement Container runtime, mangement(resource, lifecycle) Working by EG members (Not require to contractor)	1	_		
IC-006	Instrument Cluster(Fast boot) dropped	-		-	-
IC-007	Instrument Cluster(Sound system, sound server and Soundmanager in privileged)) Start at 2020. Now working.	5	3	SPEC-3471	
IC-008	Instrument Cluster(DRM sharing - Current iGel work) Maintenance for AGL upstream. Add DRM lease support to AGL compositor (Ref. SPEC-3838)	2	1	SPEC-3838	2021Feature_IC..._DRMlease.pptx
IC-008.1	Improved integration of DRM lease with AGL Compositor - remove nested Wayland backends	8	6		

ID	Description				Link/Attachment
IC-008.2	drm-lease-manager update e.g. - configuration (SPEC-3815) - multi-display on 1 connector (SPEC-3815) - feature update for IC use case : weston with lease-manager foucus on upstream	8	6		
IC-008.3	Multiple display configuration management in the Compositor	10	8	SPEC-3818	
IC-008.4	V4L2 overlay support for DRM Lease.		1		
IC-009	Instrument Cluster (Core system, which is minimal system for QM isolation uses LTS UCB) Working by EG members (Not require contractor)	3	_		
IC-010	OSS reference implementation for the RTOS combinations. Develop this task with L.F. mentorship in our plan. Implement RTOS with real-time function (ex. CAN communication) and inter OS communication using Bosch iccom. Ref. gsoc_sat.pdf Rename and upstreaming of Bosch iccom.	4	2		ICCOM_LF_Mentorship.pptx
IC-011	AGL IC integration (Qualified IC profile) Adding board support IC EG members may realize to the qualified ic profile at only one reference board. When we want to add another board, need to another work.	6	4		No15_AddingBoardSupport.pptx
IC-012	OSS assessment	6	4		https://confluence.automotivelinux.org/display/IC/Architectural+criteria+of+the+reusing+existing+OSS
IC-013	Non volatile RAM disk development. PRAMFS was stopped maintenance. Need to same solution. In case of IVI PR, that same situations. Non volatile RAM block device?.	12	10		Non volatile RAM disk development.
IC-014	New IC components				
IC-015	Switch Waltham to use WirePlumber for Audio/Video/Screen streaming - This means adding a network streaming component to PipeWire to stream beyond another container inside the same OS - Support streaming to other IVI screens, RSE, and/or IC				
IC-016	Cross-domain buffer sharing mechanism between IC<IVI; IVI<RSE				

IC-017	Requirment Spec for IC profile				