List of Implemented Interfaces

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Table 1: List of ARINC-653 services implemented in the ARINC Emulation Layer. Refer to [1] for further detail on these interfaces.

Category of Services	**Provided**	**Service Description**
Event Management Services	CREATE_EVENT	Create an event
	SET_EVENT	Set and event to notify a waiting process
	RESET_EVENT	Clear the state of the event
	WAIT_EVENT	Block on an event and wait for notification
	GET_EVENT_ID	Retrieve the identifier for an event using a unique name
	GET_EVENT_STATUS	Determine the number of processes waiting on an event
Semaphore management services	CREATE_SEMAPHORE	Create a semaphore for synchronization
	WAIT_SEMAPHORE	Block on the semaphore
	SIGNAL_SEMAPHORE	Post to the semaphore
	GET_SEMAPHORE_ID	Determine the platform identifier for it
	GET_SEMAPHORE_STATUS	Get the number of resources available and number of waiting processes
Partition management services	GET_PARTITION_STATUS	Determine if the partition is in the Normal State or Idle State
	SET_PARTITION_MODE	Set the Partition to Normal upon initialization
Process management services	CREATE_PROCESS	Create an ARINC process and set its real-time properties.
	SET_PRIORITY	Set the priority of a specific process.
	SUSPEND_SELF	Suspend self and yield resources.
	SUSPEND	Suspend a specific process
	RESUME	Resume a previously suspended process
	STOP_SELF	Set self-state to dormant. After this the process will not run until restarted.
	START	Start a given process.
	DELAYED_START	Start a process after the specified delay.
	GET_PROCESS_ID	Determine the unique identifier for a process.
	GET_MY_ID	Determine your own identifier.

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Category of Services	**Provided**	**Service Description**
	GET_PROCESS_STATUS	Determine the state of a process, whether it is running or not.
Time management services	TIMED_WAIT	Wait or suspend execution for the specified time.
	PERIODIC_WAIT	Wait till the next periodic cycle of the process.
	GET_TIME	Find current system time in nanoseconds
	REPLENISH	Extend the deadline for the current process
Blackboard management services	CREATE_BLACKBOARD	Create an intra-partition blackboard
	DISPLAY_BLACKBOARD	Write to the blackboard. This overwrites past value.
	READ_BLACKBOARD	Read the entry from the blackboard. If the blackboard is empty, reader can choose to be blocked for the specified time.
	CLEAR_BLACKBOARD	Erase the contents of the blackboard.
	GET_BLACKBOARD_ID	Determine the identifier for a blackboard.
	GET_BLACKBOARD_STATUS	Get status, number of bytes written and number of processes waiting.
Buffer management services	CREATE_BUFFER	Create a buffer.
	SEND_BUFFER	Write to a buffer. Process blocks for the specified time if the buffer is full.
	RECEIVE_BUFFER	Read from the buffer. Process blocks for the specified time if the buffer is empty.
	GET_BUFFER_ID	Get Buffer identifier.
	GET_BUFFER_STATUS	Get Buffer Status
Sampling Port management services	CREATE_SAMPLING_PORT	Create a Sampling Port.
	WRITE_SAMPLING_MESSAGE	Write to the sampling port. This overwrites past data.
	READ_SAMPLING_MESSAGE	Read the data from the port. The call also returns a flag stating if the data is stale.
	GET_SAMPLING_PORT_ID	Get the port identifier.
	GET_SAMPLING_PORT_STATUS	Get status of sampling port.
Queuing Port management services	CREATE_QUEUING_PORT	Create a queuing port.
	SEND_QUEUING_MESSAGE	Write to the port. This call blocks for the specified time if the queue is full.
	RECEIVE_QUEUING_MESSAGE	Read from the port. This call blocks for the specified time if the queue is empty.
	GET_QUEUING_PORT_ID	Get the port identifier.
	GET_QUEUING_PORT_STATUS	Get the port status.

References

[1] Arinc specification 653-2: Avionics application software standard interface part 1 - required services. Technical report.