

Meeting Notes — Justin Kwarteng — Feb 15, 2026

Field	Details
Team Member	Justin Kwarteng
Progress	Implemented v0.6.0 Group Addressing. Replaced sequential unicast commands with a single BLE Mesh group broadcast (to address 0xC000). Provisioner now subscribes all sensor nodes to this group. Gateways send one <code>ALL:COMMAND</code> which reaches all nodes simultaneously. Responses are collected asynchronously by the Pi 5. Performance improved drastically: <code>ALL:READ</code> time reduced from ~5s (for 2 nodes) to ~0.5s. Poll time changed from O(N) to O(1). Verified correct behavior for both fire-and-forget (DUTY) and response-required (READ) commands.
What's for tomorrow?	Begin implementation of v0.7.0: Self-healing Gateway Failover. Nodes will detect gateway loss and hold last state or enter safe mode.
Hours worked since last meeting	4
Hurdles	Encountered 3 critical SDK behaviors: (1) <code>need_ack=false</code> causes the ESP-IDF client model to drop responses (fixed by using <code>need_ack=true</code>); (2) Nodes reply using the group address as source by default (fixed by manually overriding <code>recv_dst</code> to the node's unicast address); (3) SDK delivers matched responses via <code>RECV_PUBLISH_MSG_EVT</code> instead of <code>OPERATION_EVT</code> , requiring a new handler.
Notes	v0.6.0 is complete and verified. Massive performance gain for the PowerManager. Full system erase and re-provisioning was required to apply group subscriptions. Documentation updated in v0.6.0-group-addressing/ .