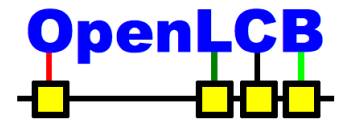# Philosophy

We want OpenLCB to be as flexible as possible, while remaining practical. We have some guiding principles:

   1. Keep doors open
   2. Think big, act small
   3. Design from the top, implement from the bottom.

1. Keep Doors Open

This means that we design so that new things, undoubtedly ones we have not thought of yet, can be added at a later date. In order enable this happen we have:
 - used large ID spaces, allowing ample room for growth and new uses;
 - defined a layered family of protocols which are largely orthogonal to each other;
 - kept in mind that these need to be adapted to transports with limited capabilities.

This principle leads to:

2. Think Big, Act Small

This means that we contemplate and plan for big ideas, big layouts, fast networks, complex interactions BUT we allow and build small layouts, implement simple nodes, use slower transports, and uncomplicated protocols WHILE being able to grow eventually into those big ideas, nodes, transports and layouts.

For example, while we plan for Ethernet backbones, streaming video, and huge layouts, we also design for simplicity, and have built/implemented: anonymous automatic node- and event-IDs, simple-nodes, blue/gold programming, and single segment CAN layouts.

This principle is related to:

3. Design top-down, implement bottom-up

Since OpenLCB is a family of layered protocols, and new protocols will be

added in the future, it is impossible to implement from the top as it is not fully known. However this does not prevent thinking and designing with the big picture, broad ideas, and even dreams in view. On the other hand, implementing from the bottom, e.g. implementing simple nodes on slower transports, keeps real life limitations front and centre, and allows us to match hopes and expectations to reality. We build today, but plan for the future.

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