Media device model

Discovering a device internal topology, and configuring it at runtime, is one of the goals of the media controller API. To achieve this, hardware devices and Linux Kernel interfaces are modelled as graph objects on an oriented graph. The object types that constitute the graph are:

- An **entity** is a basic media hardware or software building block. It can correspond to a large variety of logical blocks such as physical hardware devices (CMOS sensor for instance), logical hardware devices (a building block in a System-on-Chip image processing pipeline), DMA channels or physical connectors.
- An **interface** is a graph representation of a Linux Kernel userspace API interface, like a device node or a sysfs file that controls one or more entities in the graph.
- A **pad** is a data connection endpoint through which an entity can interact with other entities. Data (not restricted to video) produced by an entity flows from the entity's output to one or more entity inputs. Pads should not be confused with physical pins at chip boundaries.
- A **data link** is a point-to-point oriented connection between two pads, either on the same entity or on different entities. Data flows from a source pad to a sink pad.
- An **interface link** is a point-to-point bidirectional control connection between a Linux Kernel interface and an entity.