The Unified Discovery Task Group Charter

The Unified Discovery Task Group will define a configuration structure schema for low-level discovery. A structure using the schema provides the information about the existence of RISC-V platform extensions, as well as the parameters of such extensions and architectural options. A typical use case of this low-level structure is that it is parsed by bootloaders to generate the common structure, e.g. a device-tree, that the operating systems expect.

The structure does not require a central registry to allow diversified RISC-V implementation to communicate any implementation-specific parameters to software. The low-level discovery mechanism, e.g. that in a bootloader, should be capable of supporting varied use cases from rich operation systems to deeply embedded applications. The configuration structure should also support discovery by external debug tools.

The Task Group will define the specification of the schema of the static data structure that can accommodate all implementation parameters of RISC-V architecture. The syntax will utilize existing established industrial standards ASN.1. A set of rules to utilise X.691 to represent the schema will be provided. The specification will eventually be ratified as a RISC-V standard.

The Task Group will also provide a proof of concept of the low-level discovery mechanism, possibly in an open source boot loader such as uboot. The proof of concept will demonstrate how to generate the binary representation from the ASN.1 structure and how to parse the binary representation to generate a device-tree. The proof of concept may use close-sourced or commercial tools to process the ASN.1.