

INCOSE MBSE Challenge Project Initiated 2007	2007	CubeSat Framework Prelim. RAX Model	
Modeled a Space System in SysML	2010	RAX Behavior Modeling Power, Comm, State	2012
Hypothetical FireSat SMAD		RAX CubeSat Model Trade Studies	2014

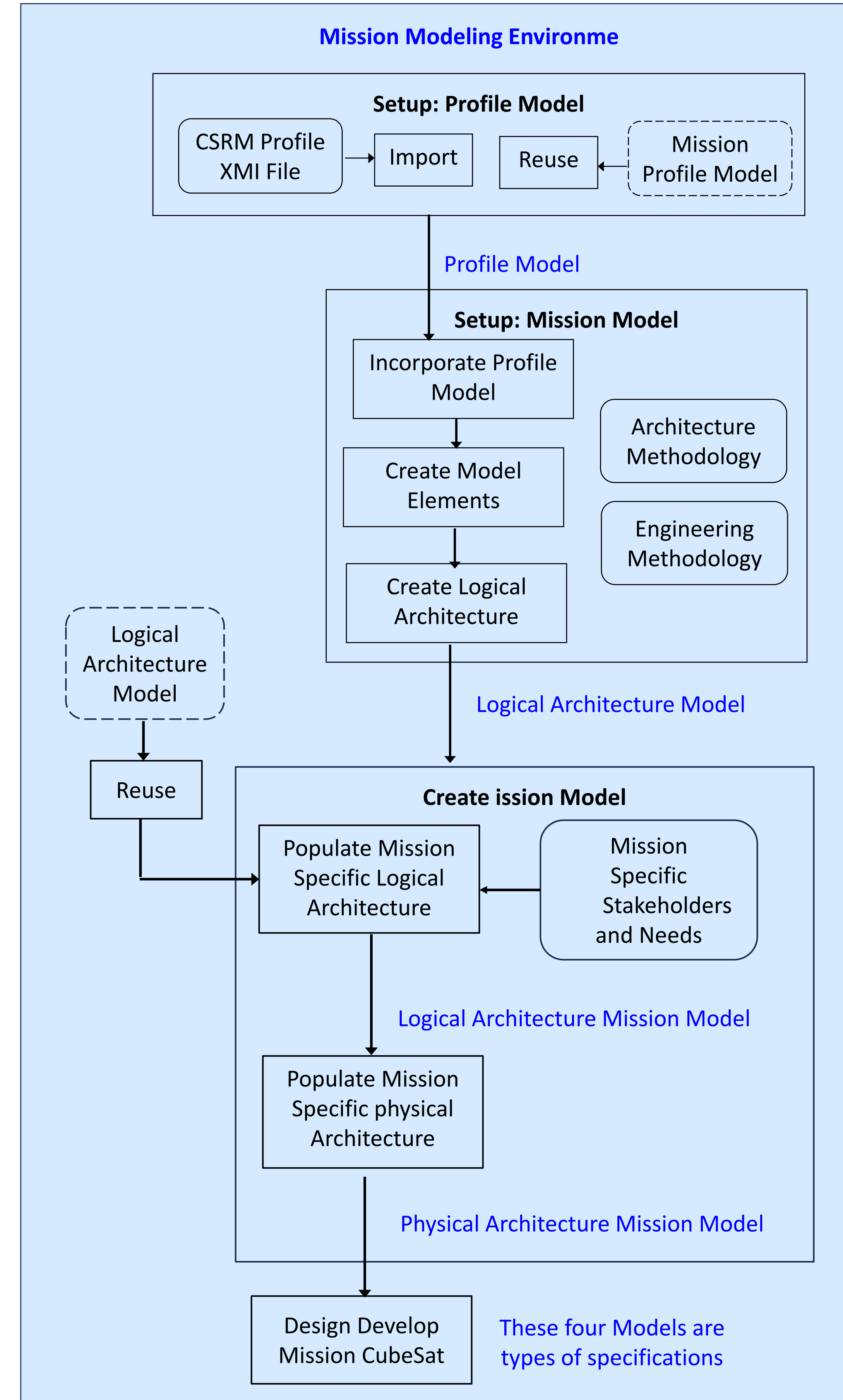
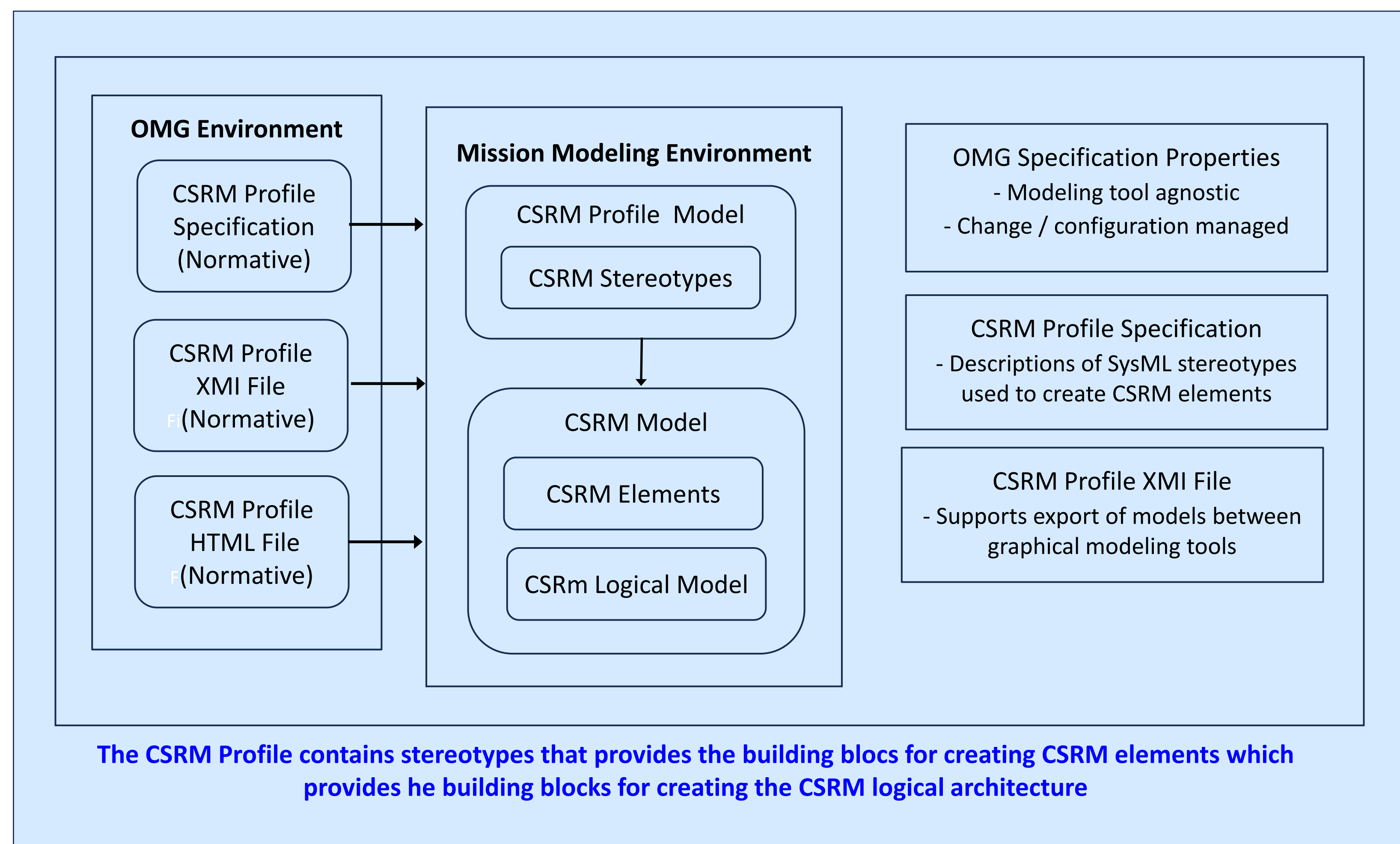
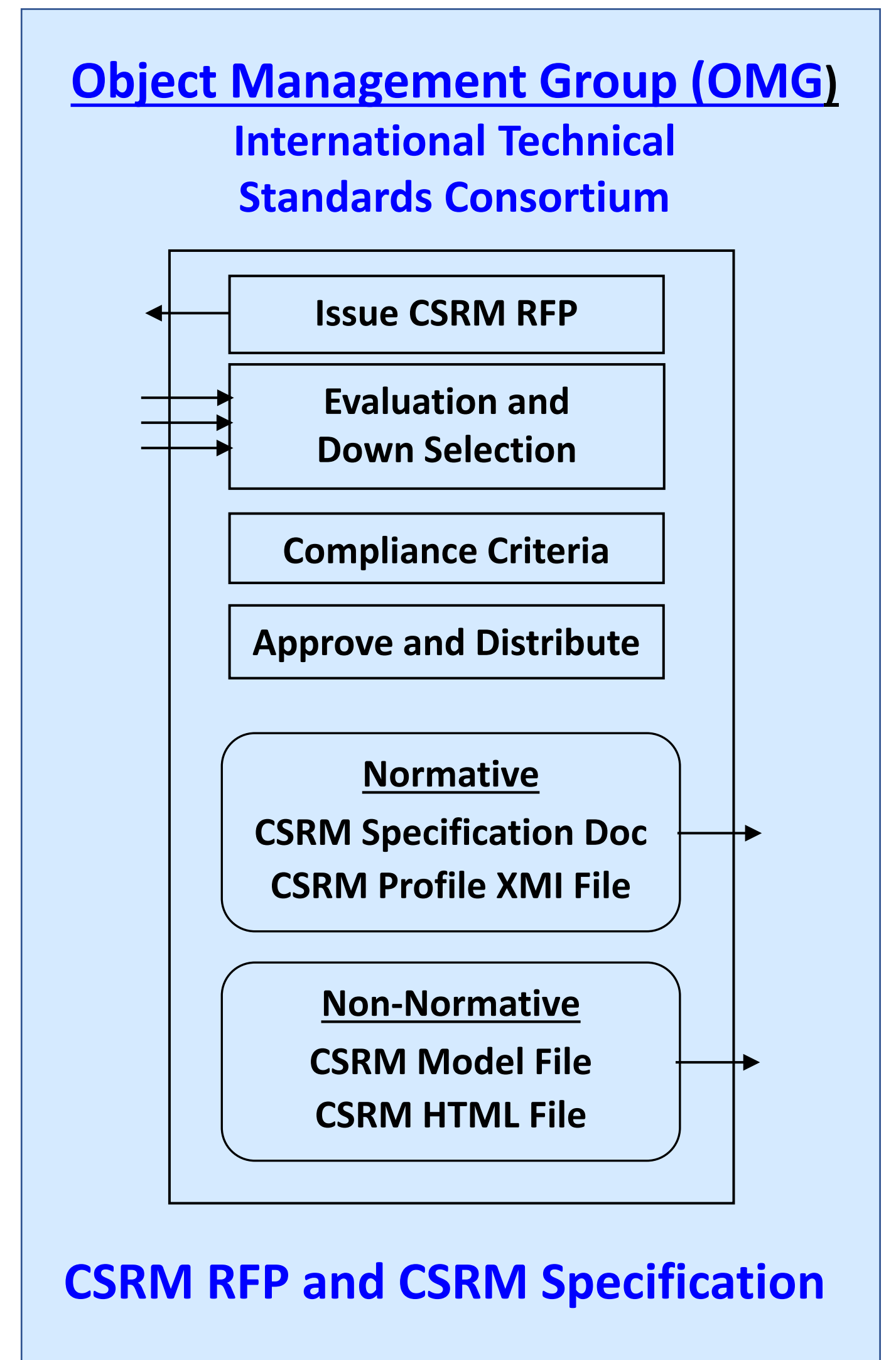
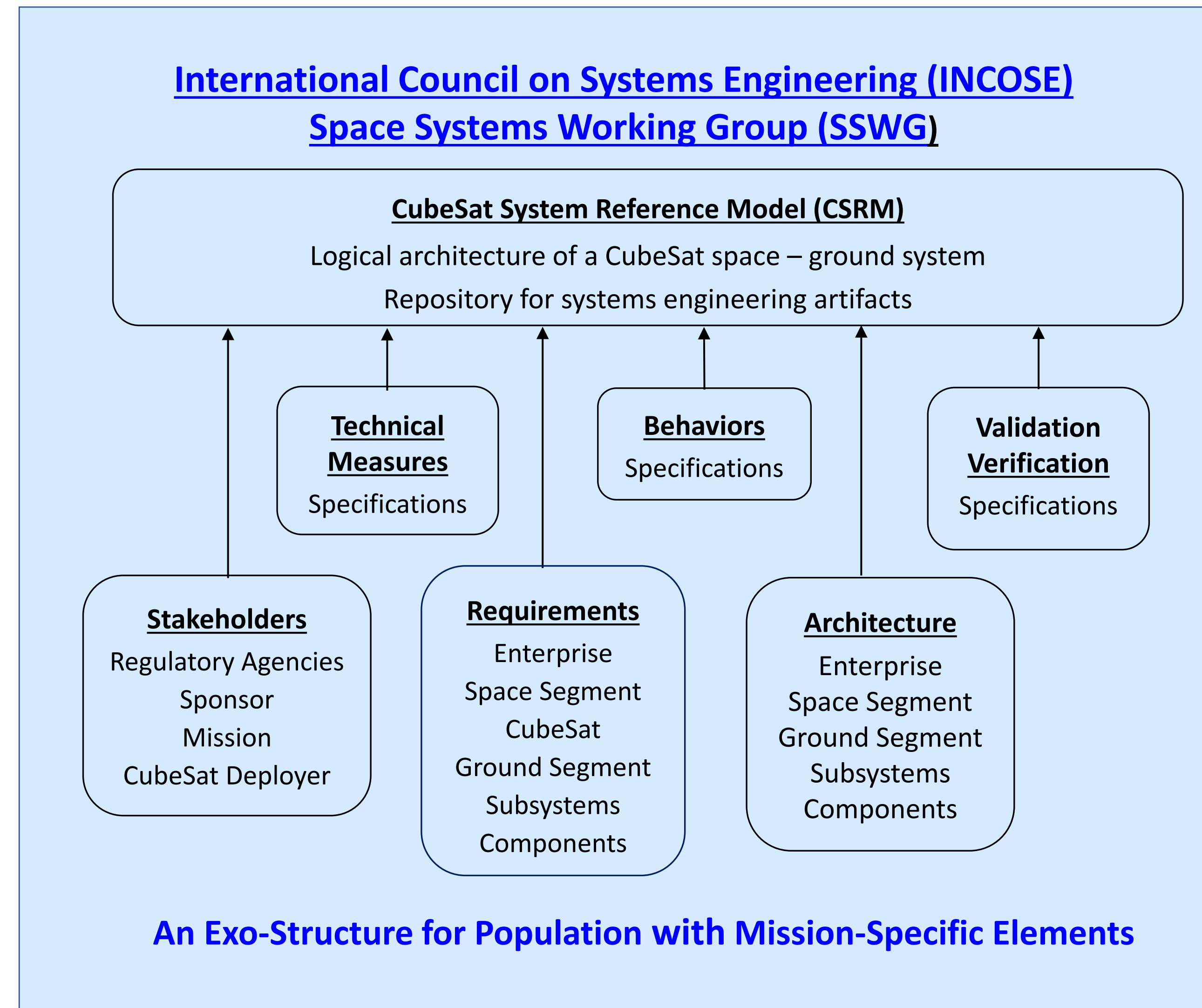
MBSE Applied to Space System

Initiate Development of CubeSat System Reference Model	2015	INCOSE Technical Product Plan 12/17	2017
INCOSE and OMG agree to develop an OMG Specification 5/16	2016	INCOSE – OMG MOU 1/18	2018
		OMG RFP 9/18	2018

CSRM Development

Letters of Intent 1/19		OMG AB endorsed CSRM Profile Spec 9/29	2021
Submittals To OMG SDTF 8/24	2019		
SSWG Selected 9/24	2020	OMG BoD adopted 9/27	2022

CSRM Specification Development



The CSRM provides the logical architecture of a CubeSat space and ground system. The CSRM logical components are reused as a starting point for a mission-specific CubeSat logical architecture followed by the development of the physical architecture during CubeSat development. The mission-specific team is free to adopt a different logical architecture and modify the CSRM to accommodate the change.

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Sources

2020 IEEE Aerospace Conf - Development and Application of the CubeSat Systems Reference Model
 2019 Small Satellite Conf - Developing a CubeSat System MBSE Reference Model – Interim Status #5
 2018 AIAA Space Forum - Developing a CubeSat MBSE Reference Model - Interim Status #4
 2018 IEEE Aerospace Conf - MBSE Approach for Technical Measurement with Application to a CubeSat
 2017 CSER - Validation and Verification of MBSE-compliant CubeSat Reference Model
 2017 IEEE Aerospace Conf - A Model-Based Systems Engineering (MBSE) Approach for Defining the Behaviors of CubeSats