VDM at large:
Analysing the EMV Next Generation Kernel

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Abstract. The EMV consortium protocols facilitate worldwide interoperability of secure electronic payments. Relevant attacks still plague the industry, with financial fraud on payment systems rising. Despite recent advances, it has proved difficult for academia to provide a suitable solution within industry's constraints. In this paper, we describe a methodology being adopted by EMVCo for its EMV2 to be released in 2019. It stems from our earlier work on EMV1. It involves domain specific languages and verification tools targeting different analysis of interest; in this paper, we emphasise the part VDM played.