Chapter XVII

The CORAS Methodology: Model-based Risk Assessment Using UML and UP

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ABSTRACT

This chapter introduces the CORAS methodology in which Unified Modeling Language (UML) and Unified Process (UP) are combined to support a model-based risk assessment on security-critical systems. The hypothesis is that modeling techniques like UML
The CORAS approach focuses on the tight integration of viewpoint-oriented UML modeling in the risk management process. An important aspect of the CORAS project is the practical use of UML and the Unified Process (UP) (Kruchten, 1999) in the context of security and risk assessment. This chapter concentrates on the integration of UML and UP in the risk assessment process.

CORAS addresses security-critical systems in general, emphasizing IT security. IT security includes all aspects related to defining, achieving, and maintaining confidentiality, integrity, availability, non-repudiation, accountability, authenticity, and reliability of IT systems (ISO/IEC TR 13335:2001). An IT system, in the sense of CORAS, is not just technology. It is also the humans interacting with the technology and all relevant aspects of the surrounding enterprise context.
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