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Author: Mrs. Kun Dai
China Academy of Launch Vehicle Technology (CALT), China, daikun12@163.com

Dr. Wen Zhao
China Academy of Launch Vehicle Technology (CALT), China, vrml98@gmail.com
Mrs. Jian Peng
China Academy of Launch Vehicle Technology (CALT), China, ilappledodo@163.com

DEVELOPMENT RESEARCH ON VIRTUAL TEST AND EVALUATION TECHNOLOGY

Abstract

Abstract: Virtual test and evaluation is one of key technologies throughout a military-industrial product developing life cycle, and one of hot research spotes in test and evaluation area. By summary of the recent research results, exist problems and technology trend abroad in this filed, this paper presents a chief research approach with a Virtual test and evaluation enabling technology as its kernel, and clarify that a research of Virtual test and evaluation should contain virtual test data infrastructure layer, technology service layer, data distribution layer and flow management layer.

Also, this paper proposes a VIrtual Test and evaluation enabling Architecture (VITA) and its common technology and key technology in application layer, and suggests focusing on solving following fundamental and challenging problems: construction of the virtual test system, VITA Middleware, visualization of virtual test process, building of the integrative environment, VVA in the virtual test, data fusion technology, and evaluate performance of the virtual test system.

Last, on a point of integration of application and technology, it gives some detailed suggestion on deeply research on Virtual test and validation enabling technology: based on the VITA kernel and the requirement of developing new military-industrial product, a common virtual test and evaluation supporting platform can be builded under a uniformed technical rules to realize a Virtual test and evaluation for the whole system of a important military product , and to make the virtual test and evaluation technology going up to a new high level.

Key words: Virtual test and evaluation; enabling Architecture