SUCCESSFUL JOINT EXPERIMENTATION STARTS AT THE DATA COLLECTION TRAIL—PART II

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Last year Joint Forces Command's, Joint Experimentation Directorate (J9) initiated planning and development in technical support of the most complex experiment (URBAN RESOLVE) undertaken to date. The experiment trials (Summer 2004) will explore future concepts and technologies for achieving situational awareness and understanding when operating in a robust large-city urban environment. In addition, the need for generating quantifiable results took on a renewed level of interest. The Commander, Joint Forces Command directed that future experiments provide findings that can survive critical scrutiny, particularly if those transformational products and solutions are to be promulgated across the Department. The authors' add another chapter to last year's paper, as they craft a system for providing more creditable and quantifiable data to support experiment findings. This paper will cover: changes made in the initial plan for data collection and analysis as new challenges arose along the way; the technical issues related to the architectural choices; as well as the challenges awaiting the group of individuals charged with maintaining a nationwide, distributed federation and network whose ultimate goal is to provide cogent, traceable data generated from the federation and human-in-the-loop player inputs. In preparing for the experiment trials, initial data storage assumptions gave way to the realities of finding more robust methods of collection as bandwidth traffic increased as federation architectures were modified to support emerging user requirements. Innovative approaches on how near-real-time data would be collected were instantiated as attention turned towards the post-processing needs that would sustain the experiment analysis team in the months following the trials. Integrating scalable parallel processors and addressing issues dealing with the means for storing and retrieving extremely large quantities of data added to the challenges. Finally, major lessons learned will be addressed from a transformational perspective.
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