Measuring the Value of Simulation

Calytrix™ LVC Cost Counter

Measuring the Value of Simulation for the US Army

The US Army is a world leader in the use of simulation to conduct individual and collective combat mission training. With the wars in Iraq and Afghanistan coming to an end, the Army will sustain, and potentially grow, its use of simulation to maintain those skills learned during live training and combat over the last 10 years. Due to lack of training space and budgetary strictures, many of these critical skills can only be trained in simulation.

Utilizing Calytrix™ LVC **Cost Counter**, Commanders and staff can accurately articulate the savings being made by their simulation systems. Imagine the impact of seeing a large screen above a simulation center or in the Headquarters of a Brigade Combat Team showing a running and live total of the savings being made by the Unit's simulation systems. The capture and visualization of that cost data is a powerful message and essential management tool; and it is the core of the capabilities of Cost Counter.

Measuring the Savings:

With the establishment of key simulation capabilities, there can be little doubt that the application of simulation in analysis, training and operations is flourishing. To date, this adoption has been, in part, generated by the view that simulation saves money and increases capability.

While the technology argument for simulation seems to have been made, and is supported by clear observational and anecdotal data from the field, the collection of actual costs and cost benefit data remains more elusive. This is especially so in an increasingly complex Live, Virtual and Constructive (LVC) arena where simulated effects are blended in real time with live training. It has often been stated that accurate "Costing and the Cost Benefit Analysis for Simulation" is the missing link in the argument for simulation. Without clear empirical data on the Value of Simulation, it is difficult to articulate a solid business case for deeper integration of simulation into the underlying capability development and training life-cycles.

Calytrix's "Cost Counter" is a software system that monitors the simulation network (using the DIS/HLA standards) and accumulates and displays the individual, category and total costs associated with LVC simulation events. Able to work on all 'standards-compliant' simulation systems, Cost Counter enables users to accurately measure and conduct deeper analysis into the application and cost savings being achieved through the use of simulation.

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Calytrix's Cost Counter provides the US Army with accurate data on the cost savings of its simulation systems and centers. As an example, at the collective level the system is able to definitively state the actual cost savings of constructive simulation based training of Brigade Commanders and their Staffs, or indeed any unit making use of simulation in their readiness cycle. The same is true for individual training where accurate savings are recorded for the conduct of a tank gunner's course, JTAC course, or ongoing pilot training using simulation. Cost Counter logs all of the various events that occur during an exercise that would incur cost in the real world and automatically calculates an approximate cost based on the resources consumed. Cost Counter can be used on all standards-compliant simulations and allows costing data to be collected, analysed and exported. Cost Counter monitors all of the activities in simulation and provides a range of reports detailing total costs, aggregated costs for each equipment type (e.g., all the M1A1 tanks) down to the costs associated with each piece of individual equipment (e.g., an individual vehicle).

Cost Counter operates using user-defined data stored in an underlying relational database. The key point is that the user of Cost Counter defines the content (and thus the quality) of the data in that database, which of course includes the individual costs of many dozens, hundreds, or thousands of items. Therefore, Cost Counter can be tailored for different costs associated with operating in different terrain types and conditions. For example, we know the cost per blade hour of a CH-47 helicopter is less when operating at Fort Bragg then when it is operating in Afghanistan. Does it cost more to operate an M1A2 tank at Fort Hood then an M1A1? The user can define the values of each and then show the cost difference in real time.

Another powerful capability of Cost Counter is its ability to be used as a predictive and budgetary planning tool. By running the scenario envisioned in simulation, Cost Counter will return an expected cost for the exercise, giving Commanders at all levels confidence that they are issuing their yearly training guidance with an accurate cost figure. Cost Counter can be used to analyze the costs, and limited logistical data, associated with both training and operational COA analysis. While not endeavouring to replicate logistic data, Cost Counter will provide accurate reports on distances travelled and hours of operation.

Cost Counter provides the hard financial data that definitively justifies Army's simulation systems