

## Boeing Australia Systems Analysis Laboratory Creates Visual Logger

No one likes to spend precious development time on tedious or time-consuming tasks. When Boeing Australia's Systems Analysis Laboratory needed to find specific simulation events in a simulation stream, they had to review hours of simulation streams and manually record events of interest. Finding specific events, such as firefights or sensor systems engagements, was indeed tedious and time consuming.

“When our simulation capacity grew to simulate hundreds of entities over long periods of simulated time, the process became unmanageable,” explains *Shane Arnott, technical lead of the Systems Analysis Laboratory*. “Sending the events to our IG via a user interface was problematic. **We needed an automated system that could generate events (such as a camera change event) based on user-recorded simulation events.**”

The laboratory wanted to visualize the simulation stream, including user interface events like camera changes. Their goal was a Logger that could visually represent simulation events and manipulate them, in the style of digital film-editing software like Adobe Premiere. Like film-editing software, users could visually edit and move user-based events to create impressive debrief sessions or fly through demonstrations.

“Initially we looked for a COTS product to fill the requirement,” continues *Arnott*. “We tried a number of products, but none completely met our needs. We are current VR-Link customers and approached MÄK about alterations to their Data Logger API, which would allow us to embed it in our visual interface. As fortune would have it, MÄK was embarking on a new direction for its product with its Logger API, which allowed us to fully integrate the Logger into our application.”

Arnott's group built a user interface that allows his staff to visually determine where major events occur through dense collections of ticks. Their solution provides a time

line; ticks are drawn to correspond to events in the simulation. Concentrations of ticks indicate where major engagements took place - the denser the collection, the larger the event. This tool also allows users to select the current time in the log stream via point and click, without entering times. Users can drag and drop events to edit the simulation for a more streamlined demonstration or after action review.

“We chose MÄK because of their willingness to work with us on this solution,” says *Arnott*. “**MÄK allowed us access to its best engineers to discuss problems, and their talented support staff responded quickly to requests.** Other companies in the industry can learn about customer service from MÄK.”

“I think our Visual Data Logger could benefit anyone who has long or detailed simulation streams to review or who performs debriefs and demos regularly,” says *Arnott*. “This is a good tool for anyone who just wants a visual interface to their log stream. Putting a visual face on the log stream has been a big winner with the ex-military staff. By visually representing the data, everyone gains a better understanding of the information logged via DIS or HLA.”

The Boeing Australia Systems Analysis Laboratory works on a variety of projects, but prides itself on its strong mission level constructive simulation for comparative assessments of new acquisitions. The labs recent projects include work on Boeing tenders to supply reconnaissance helicopters for the Australian Army; and both combat aircraft and air-to-air re-fueling aircraft for the for the Royal Australian Air Force.

MÄK Data Logger release 3.7 includes the functions and features Arnott used to build his Visual Data Logger. The Logger API allows users to integrate Logger functions into other applications and customize Logger behavior. Other new features include time scaling for aggregate entities and switching between playback and record modes through the command line interface.