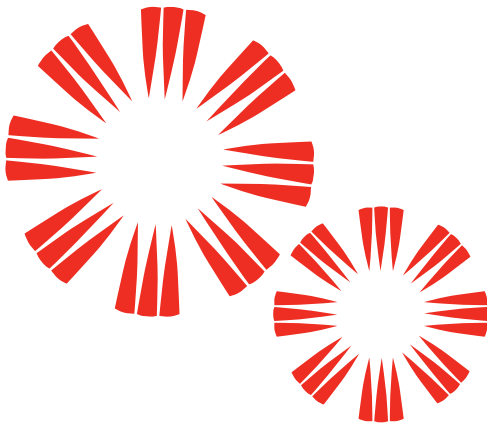


What's Up MÄK

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VT MÄK: The Leaders in Interoperability

We're keeping up with the latest interoperability standards so you don't have to. Next up: DIS 7.



See how MÄK is contributing to data interoperability at GEOINT 2013.

Learn more on [page 3](#).

For more than 20 years, MÄK has upheld a steadfast commitment to open standards with our native support for High Level Architecture (HLA) and Distributed Interactive Simulation (DIS).

The HLA protocol has evolved and changed quite a bit over the years, adding more and improved features like FOM modules and update rate reduction. As a part of our continued support for the standard, MÄK has worked to ensure that our entire product line supports these new features, as well as maintains compatibility with older systems.

DIS, on the other hand, has largely remained the same with a noticeably more limited feature set than HLA. The standards committee has recently approved DIS version 7 to rectify some of these limitations and, of course, we will support this new standard throughout our entire product line.

What this means for you

Because all MÄK products use VR-Link and its protocol-independent interface, updating our whole product line to support this new standard is painless. Whenever we add support for an updated protocol, a simple recompile of our other products is often all that is needed. *Our customers gain this advantage also.* If you purchased VR-Link fifteen years ago and integrated it into your product, enjoy an easy upgrade to the latest version of VR-Link with very little work. Almost magically, your product will support the latest version of HLA. And soon, it will support DIS 7.

With the release of VR-Link 5.0 later this month, our customers can use the latest version of DIS with minimal recompiling effort. As is our norm, we will continue to support previous versions of DIS indefinitely. It is our job to keep up with the newest standard so you don't have to.

What's new in DIS 7?

DIS 7 has a number of new and expanded PDUs to offer, but the most exciting improvements are in the areas of performance and extendibility.

Performance

DIS, unlike HLA, heartbeats all of its entities making it easier to handle late joiners and dropped messages. However, this also means that there are more messages than necessary in the network. DIS 7 alleviates this problem by defining different heartbeating values under different conditions. For example, you can now set a heartbeat value for entities that are stationary, so that they update infrequently. Moving entities update more often.

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What's new in DIS 7?

Similarly, you can now set a different heartbeat value for each entity type. Fast moving airplanes can update rapidly so as not to miss their complex maneuvering. At the same time, tanks on the ground update at a slower pace. When optimally configured, this will help DIS exercises scale to new levels. (Check out our Tech Tip by Felix, below, to learn how to modify heartbeats for stationary or specific entities.)

Extensibility

DIS 7 provides a new PDU, called the Attribute PDU, that can be attached to every other PDU to extend DIS. For example, let's say you want to include a new field "ThirstLevel." You can now put that field inside the Attribute PDU, and then bundle this PDU with every life form entity. This allows every PDU in DIS to be extended however you want. If you are using VR-Link, we take care of the bundling and unbundling for you, so extending entities is a simple matter of adding a new name/value pair to your object or interaction.

To learn more about DIS 7 improvements, stay tuned to the MÄK blog and join us for the DIS 7 Technical Tutorial on Tuesday, November 19. 🌸

MÄK Webinar : DIS 7 - A Technical Tutorial

Date/Time TBA - Stay tuned to the [MÄK Events page](#) for updates.

For the first time in almost 15 years, the DIS IEEE standard has been updated. The simulation standard now provides ways to expand and customize your DIS exercise. What does this mean for you? How can you take advantage of its new features? Will you have to rewrite your DIS software to support it? Join us for this one hour seminar, presented by MÄK's interoperability expert and Link Team Lead Engineer, Felix Rodriguez.

Felix will answer common questions, including:

- What has changed in this release of DIS?
- How can these changes help your simulation environment?
- How can you use VR-Link to take advantage of the new DIS 7 features?
- What does this new standard mean for backwards compatibility with existing DIS systems?

Tech Tip by Felix

Take advantage of DIS 7 to set different entity heartbeats in VR-Link

DIS 7 supports the ability to set the heartbeat of an object based on its entity type or whether or not it is moving. If you are using VR-Link and have an existing DIS exercise, you can take advantage of this feature without doing much work. For example, to make your non-moving entities heartbeat once every 20 seconds, all you need to do is call the following function anywhere in your software:

```
DtEntityPublisher::setStationaryDfltTimeThreshold(20.0);
```

Lets say that you also want to have all air units heartbeat once every second and humans to heartbeat every 2 seconds. This is just as easy to do:

```
DtEntityPublisher::setEntityTypeDfltTimeThreshold(DtPlatform,DtPlatformDomainAir,1.0);  
DtEntityPublisher::setEntityTypeDfltTimeThreshold(DtLifeForm,-1,1.0);
```

You can also set the heartbeat value by class type. For example, you can decide to tick all IFF objects every 10 seconds and entities every 5:

```
DtIffPublisher::setClassDfltTimeThreshold(10.0);  
DtEntityPublisher::setClassDfltTimeThreshold(5.0);
```

Lastly, you can still set a single heartbeat value for every DIS object. By default, this is set to 5 seconds.

```
DtObjectPublisher::setDfltTimeThreshold(8.0);
```

Feel free to mix and match these heartbeat values to make sure that important units get updated more frequently than less important units. If you wrote all six lines above, you would get stationary entities heartbeating every 20 seconds, moving air units and lifeforms heartbeating at 1 second, and all other moving entities heartbeating at 5 seconds. Non-entities will heartbeat every 8 seconds unless they are IFF objects, which heartbeat every 10 seconds.

You still need to call `DtExerciseConnection.tick()` to actually send the data over the network. At the very least, you should be ticking at the rate of the smallest heartbeat threshold. This quick and easy change will allow your DIS exercise to grow larger as your network usage decreases. For more DIS 7 tips, stay tuned to our [blog](#) and attend the upcoming DIS 7 webinar! 🌸

Company News

MÄK @ GEOINT 2013

Members of the US Geospatial Intelligence Forum (USGIF) Modeling and Simulation Working Group and the Open Geospatial Consortium (OGC) have come together as part of their ongoing strategic partnership to advance the use of agile geospatial data sharing and to demonstrate the benefits to both the M&S and GEOINT communities.

MÄK will provide a live demonstration that brings together vendors, integrators, and data providers from both the M&S community and the GEOINT communities to illustrate recent advancements in interoperability enabled by OGC and ISO standards. MÄK's VR-Forces will model shipping traffic as it contends with an oil spill. ExactEarth will provide the AIS ship tracks to seed the VR-Forces simulation and Envitia will generate an oil spill plume using data from NOAA, DigitalGlobe, Compusult, and other sources of web-served data. VR-Forces will dynamically replan shipping traffic around the oil-contaminated area.

A lively discussion is expected following the demonstrations - we hope you'll stop by and participate! Learn more at our [website](#). 🌸

MÄKer Spotlight: Kathy Pratt

Chief Financial Officer



This month, the spotlight shines on Kathy Pratt, MÄK's Chief Financial Officer. In addition to leading the finance and accounting team, Kathy also serves as MÄK's security officer (FSO), personnel officer, compliance officer, and secretary to MÄK's board of directors. Kathy enjoys working on many interesting and challenging projects with a variety of people, including customers, vendors, and our parent and sister companies.

Before MÄK, Kathy was the Director of Finance and Contracts in a large multinational health and human services organization, the Education Development Center. She worked at this mission-driven non-profit to support worthy causes with incredibly high caliber and committed colleagues, which Kathy found extremely rewarding.

Kathy started her career in the financial field by working at Bolt Beranek and Newman (BBN Technologies). You might not know it, but BBN played a significant role in developing the Internet!

Kathy had a rather non-traditional education - she attended an experimental high school in Watertown named Home Base. This high school featured an open classroom structure that involved taking classes out in the community as well as within the school itself. While Kathy was completing her undergraduate work in Accounting at Bentley University, she was accepted into Simmons Graduate School's MBA program as a non-traditional student since she did not have her Bachelor's degree yet. She attended Bentley part-time for three years while working at BBN.

You'd think with all these degrees that Kathy would have been to several memorable graduation ceremonies! Alas, she's never actually attended a graduation of her own. Home Base was a 'hippie' high school (her words) and didn't believe in graduations - but they threw a great party! She missed her Simmons graduation ceremony because she was in the hospital giving birth to her first child. Talk about cutting it close!

Kathy enjoys reading and has been an avid gardener her entire life. She considers herself a foodie and loves to go camping and hiking. After a long hiatus from being outdoorsy, she got back into hiking and backpacking two years ago, and just recently accomplished her goal to climb Mt. Washington!

We hope we've piqued your interest in our MÄK team! For more info, visit www.mak.com. 🌸

Limited Time Offer!

WebLVC + VR-TheWorld = Immediate Savings

MÄK knows that the cost of developing and operating simulation environments is high, but we're committed to reducing that cost. Take advantage of our latest limited-time offer, which bundles our innovative web and mobile technologies to save you money immediately.

Now through December 19th, 2013, we are bundling VR-TheWorld, MÄK's streaming terrain server, with the MÄK WebLVC Suite, a collection of web-based applications that can interact with existing simulations or form platforms for new applications. Together these products reduce development costs and provide a novel interface that is easy-to-field, intuitive to operate, and customizable for your specific environment. To learn more about this offer, contact us at info@mak.com.

About WebLVC

WebLVC was launched by MÄK in 2012 to leverage web and mobile technologies within existing or new modeling and simulation applications. Check out the WebLVC Testbed at www.weblvc.com for some sample applications. For a live demonstration of how these technologies can improve your project, contact us at info@mak.com. 🌸