

# Comments on OGSA-DMI Functional Specification 1.0 (6 February 2008)

---

*R. Schuler, USC Information Sciences Institute*

*25 March 2008*

I'm just going to list my comments following the order of the document rather than attempt to categorize them according to high-level issues versus low-level details.

## **From section 3: “the ability to transfer data from one location to another”**

I had a bit of a misconception about the goal of the OGSA-DMI specification before I reviewed it. I previously thought it would be similar to the Globus Reliable File Transfer service or the Storage Resource Management srmCopy interface. These tools manage several transfers per request, whereas as I now understand it the OGSA-DMI interface is intended to support essentially a single “one location to another” data transfer. So it seems more akin to a Web service layer atop a data transfer utility. For instance, it appears to be a candidate to sit in front of the GridFTP servers as a WS interface for the control channel. Also, it could be a candidate to replace srmCopy though without support for multiple transfers. But as I understand it, it would not be a candidate for a service that schedules multiple data transfers per request.

## **From section 3.2.1: “this version of the specification does not make use at all of the WS-Addressing Endpoint Reference data structure”**

I don't necessarily have an issue with that decision. I just would like to have a better understanding of why it isn't used. For instance, what made WSA EPR unsuitable for this specification? Also, given that the name used is “Data Endpoint Reference (DEPR)” and in fact the data structure looks superficially similar to the WS-Addressing EPR (figure under 4.2.1.2.1), this seems sure to cause confusion.

## **From section 4.2.1.2.1: DataLocations/Credentials element**

I think this is a good choice to include a `Credentials` element nested in the `DataLocations` element of the `DataEPR`. Ideally though, I would have a *default* `Credentials` element elsewhere that could apply to both the source and sink DEPRs, perhaps in the `[transfer requirements]` parameter of the `create DTI` call. I think it's likely that the user's credential often will be the same for source and sink. By only having this element nested within the source and sink DEPRs results in significant overhead.

## **From section 4.2.1.3.1: EndNoLaterThan element**

The `EndNoLaterThan` setting could be problematic. Does a user really want to abort a transfer that is 99% complete? Is this feature mapped to a real user requirement? But if it is needed, why not just use the `WS-ResourceLifetime TerminationTime` interface?

## From section 5.2: Support for Stop or Suspend

Not all transfer protocols will be able to support the stop or suspend operations. In such cases, I suppose the DTI state becomes `failed:unclean` or perhaps the service returns an exception. I am not clear on that.

## General comment: Extensions

It seems like there will be a lot of usage of the `any` elements to extend the interface. For instance, I can see `[transfer requirements]` being used for GridFTP specific settings like streams and buffer size in order to tune GridFTP transfers. While the interface specification appears well defined and it is good to limit its scope, in practice the extended, implementation-dependent elements could be significant and undermine the objective of interoperability. That's more of a concern than an objection.

## General comment: Support for notifications

I don't see support for notifications or is WS-Notification an interface that implementations of the specification can *optionally* support. As much as possible, it would be good for the specification to reduce the need for client roundtrips, e.g. getting a state notification instead of polling the DTI resource to check whether the transfer is done. In fact, adding a "callback" EPR in the create DTI call could be a good way to eliminate the need for the client to make a second remote call (following the first remote call to create the resource) to set up notifications, if notifications are to be supported.