

An Invitation To A Preview Of A Major Data Modeling Presentation

From February 27 to March 1, 2024, in Phoenix Arizona a conference that is entirely dedicated to professional data modeling will take place: The Data Modeling Zone (<https://www.dama.org/events/data-modeling-zone-us-dmz-2024>):

“Applications deliver value only when the underlying applications meet user needs. Yet organizations spend millions of dollars and thousands of hours every year developing solutions that fail to deliver. There is so much waste due to poorly capturing and articulating business requirements.

Data models prevent this waste by capturing business terminology and needs in a precise form and at varying levels of detail, ensuring fluid communication across business and IT. Data modeling is therefore an essential skill for anyone involved in building an application: from data scientists and business analysts to software developers and database administrators.

Data modeling is all about understanding the data used within our operational and analytics processes, documenting this knowledge in a precise form called the “data model”, and then validating this knowledge through communication with both business and IT stakeholders.”

DMZ is the only national/international conference that is completely dedicated to data modeling, with more than twenty successful meetings worldwide. (<https://technicspub.com/dmz/>)

A Conference Presentation Preview Opportunity – During the DMZ conference, a major presentation titled “*Conceptual Information Resource Modeling for Librarians, Library Technologists, and Everybody Else*” will be given by IT industry pioneer David C. Hay. (See the accompanying documents for more information. Hay’s approach to conceptual modeling involves the creation, tuning, and disposition of “application patterns” that are created by abstracting, integrating, and refining conceptual models created from interactions with “enterprise” decision-makers, managers, system users, and IT specialists.

As a courtesy to the Library, Archive, and Museum (LAM) community, Mr. Hay would like to preview his one-hour presentation to interested parties in the Library, Archive, and Museum LAM community for their consideration and comment.

A Challenge Was Issued And Responded To –The presentation is an outgrowth of a challenge presented to Mr. Hay: Apply industry-standard DMZ-style conceptual modeling techniques – along with his own refined theoretical and design methods – to products of information modeling efforts undertaken and underway within the LAM community.

Mr. Hay’s presentation constitutes a significant initial effort by an IT industry expert to engage “Library World” approaches to information modeling and IT system design. Hay’s work deserves close attention by the LAM community due to its realization of a design technique called

“pattern-based ER modeling,” as defined in a comprehensive monograph on conceptual modeling for database applications:ⁱ

“A *design* pattern is specified by its name, content, problem area, motivation, structure, behavior, interaction, solution, intention, alias names, variants, application area, applicability constraints, sample applications, known applications, associated patterns, collaborations with other patterns, integration strategies applicable to the pattern, references to related patterns, and by its utilization profile.

Application patterns ... can be composed to larger schemata by abstraction, integration and refinement. The composition process ... include the phases retrieve (similarity comparison, derivation of integration framework), reuse (partial or entire pattern integration), revise (adaptation to the current application), and retain (insert into the schema currently under consideration). In a similar fashion re-engineering of schemata can be supported.” (*my emphasis*)

Hay’s “application pattern” conceptual modeling strategy promises to address what Jenn Riley has characterized as an overwhelming number of LAM metadata standards.ⁱⁱ Hay claims that his methods are designed with a goal of identifying and consolidating underlying similarities in conceptual models, while improving their adaptability in the face of change. If Hay’s methods could successfully be applied to modeling LAM “Things of Interest,” what smaller quantity of “application patternsⁱⁱⁱ” might fully represent the full set of concepts underlying the 105 metadata LAM standards Riley identified?

The DMZ presentation will report on Mr. Hay’s engagement with the body of work associated with the creation of the IFLA FRBR conceptual (etc.) model. Despite constraints placed on the modeling effort (see below), Hay’s presentation will reveal highly significant differences in approach and result between DMZ-style (+ Hay) modeling methods and those practiced within the LAM community.

Constraints: Hay’s response to the challenge is a *pro bono* intellectual exercise intended to introduce his theories and methods to the LAM community for evaluation and – ideally – uptake. Given the informal nature of the challenge, there was a reduced degree of contact with LAM parties and incomplete access to FRBR documentation.

As is emphasized in Mr. Hay’s numerous publications on business process modeling, requirements analysis, and conceptual & logical data modeling, modeling success depends on interaction with and feedback from enterprise stakeholders at all levels. LAM parties attending Hay’s slideshow preview should expect to encounter differences in LAM-related knowledge base that would be eventually minimized during a commissioned enterprise-level conceptual (& data) modeling and IT system design process.

Preview attendees will also experience informative “culture clashes” that are due to differences between LAM and DMZ (+ Hay) informed practitioners. LAM parties wishing to minimize this

clash could browse Hay's work in a DMZ-informed context^{iv}; review Hay's "buzzword compliance"^v slideshows on YouTube; or seek out his monograph through booksellers.

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Date and Time: Thursday, January 18, 2024. 11:00am Pacific; 12:00pm Mountain; 1:00 PM Central; 2:00 Eastern Standard Time

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Attachments: Presenter's Comments, Hay Resumé

ⁱ Thalheim B. 2000. *Entity-Relationship Modeling : Foundations of Database Technology*. Berlin: Springer. p 11-12. See also: ER2023: Companion Proceedings of the 42nd International Conference on Conceptual Modeling: ER Forum, 7th SCME, Project Exhibitions, Posters and Demos, and Doctoral Consortium, November 06-09, 2023, Lisbon, Portugal

ⁱⁱ At publication time, Riley documented 105 LAM-related metadata standards. Riley, Jenn. 2009. *Seeing Standards: A Visualization Of The Metadata Universe*. <https://jennriley.com/metadatamap/>

ⁱⁱⁱ Hay brands them as *Enterprise Model Patterns*.

^{iv} <https://tdan.com/?s=David+hay>

^v *Achieving Buzzword Compliance: Data Architecture And Vocabulary*. Conceptual modeling: <https://www.youtube.com/watch?v=bZLjVVYCIi0>, Logical Modeling: <https://www.youtube.com/watch?v=H4uqqHDNT4I> . See also the monograph: <https://technicspub.com/buzzword/>