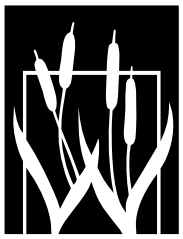

Whitemarsh
Information Systems Corporation

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www.wiscorp.com
Website Announcement

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Greetings:

We have been hard at work over the past seven months, focused mainly on six items:

- A Multi-SQL Version of the Metabase System
- A new Short Paper on Reference Data Management
- Metabase System Extensions
- Creating a valid, reliable and repeatable Request for Proposal (RFP)
- Whitemarsh Data Management Practice Areas
- Fall 2010 Book Sale

First, the Whitemarsh metadata management system, Metabase, continues to be free. Requests for downloads of the free Single-User and Single-Metabase version can be submitted to Whitemarsh from the website. The link is from the front page. We have fulfilled requests from all around the world. Please ask for yours today. We have also published a 10 page document that identifies the role that the Metabase metadata management system services in the achievement of data interoperability within an enterprise, department, and project. This document is listed on the Metabase page.

There is now a new version of the Metabase System, V7.2. Version 7.1 had a new module, Requirements, and Version 7.2 was changed so that you can employ either Mimer or MS SQL Server, or both as the engine for managing your metabase databases.

The Requirements module has requirements in a network data structure so that simple, hierarchical, and network structured requirements can be modeled and mapped to mission-organization-function, resource life cycle node, data integrity rule specification, use case, business event, business information systems, DBMS column, user acceptance test step and database. Since the data integrity rule, use case and user acceptance test modules are still under development, those mappings are not functional.

The multi-SQL DBMS capability is now present. Because of this, the metabase administrator has a more significant role. They must engineer the connection-strings so that the Metabase System knows which SQL engine is being used and where the metadata databases are stored. This administrator capability is now programmed into the Admin module. The metabase administrator must also distribute a specific file to each metabase client installation so that the metabase modules know where the boot-strapping connection strings are located. All this is explained in the Admin user guide.

When a metabase functional module is started, a new screen is presented that enables the user to choose which DBMS engine is being accessed. That is, MS SQL Server or Mimer. Once chosen, the boot-strapping connection string file is accessed and the user is requested to enter their Metabase system user name and password. The Metabase system then presents the user the metabase databases that their metabase administrator allows them to access. Once selected, you're connected to that metabase. Use thereafter is normal. Plans for the rest of 2010 include setting up access to Oracle, Postgres SQL, and MySQL.

The metabase system is a metadata management system focused on UpperCASE. That is, it focuses on the Requirements through Design phases of database and business information

system development. Exports from the Metabase system will continue to be SQL DDL and Clarion's database definition language. This way you can, with Clarion as your development (or prototype development) environment directly import from the Metabase System and generate database schemas in SQL engines, and first cut, operational business information systems.

There are many other metadata management systems that are mainly focused on capturing operational database and business information system artifacts. Thus, the Metabase System and these other metadata management systems are complementary. Because the Metabase System's schema is explicit, exporting metadata from the Metabase System is quick and easy. This can be done through standard SQL-ODBC report writers such as Crystal Reports.

When you request a Metabase System copy, you will be sent an email from the Whitemarsh Forum with download instructions. The ReadMe file is posted to the Metabase page.

A recent key feature of the Metabase System is automatic naming, abbreviations, and definitions. Yes, automatic definitions. If you do not have your metabase version, please ask for it.

Second, a Short Paper, *Reference Data Management*, has been posted to the website. This paper details the six different cases of reference data and illustrates how they are employed in enterprise-database situations. These are:

- Single Content Columns
- Multiple Content Columns
- Sequenced Values
- Mapped Values
- Discrete Values
- Range of Values.

The Reference Data Management paper resulted from a significant set of lessons-learned from an Independent Validation and Verification consulting assignment of a $100 million software development effort during 2009. Without an extensive analysis and treatment of the reference data management cases, the long term cost in software management was projected to be very expensive. Please consider downloading this paper.

Third, the newest of the Metabase System's functional modules is Requirements. This is now part of Version 7.2. We are additionally developing:

- **Use Cases** along with complete integration with Business Functions, Business Information Systems, Data Models, Business Rules, and Business Requirements.

- **User Acceptance Test Specifications** along with complete integration with Use Cases, Data Models, Business Information Systems, Business Rules, and Requirements.

- **Business Information Systems Detailed Specifications** including screen specifications along with complete integration with Use Cases, Data Models, and higher levels of Business Information Systems.

- **Data Integrity Rule Specification** along with complete integration with Use Cases, Data Models, Business Information Systems, User Acceptance Tests, and Requirements

Use Cases, User Acceptance Tests, Business Requirements, and Data Integrity Rule Specification are to be separate Metabase System Modules so that they can have their own levels of security, users, and specific Metabase System database access.

We hope to be able to release a new module every month or so throughout rest of 2010. The rationale for these new modules is to broaden the scope and value of the Metabase System to the entire range of database and business information system development.

Our next module will be Use Cases. In a 2009 project on which we were the Data Management IV&V consultant, two items, requirements and use-cases, were the most glaring in their construction. It's not that they weren't done. Rather, it was because they were not integrated one with the other nor were they integrated with any of the many other project artifacts. Clearly, in this $100 million + effort, this lack of developed artifact integration and cross-reference "would have" led to very difficult (if not impossible) validation and testing, and thereafter to very difficult (if not impossible) evolution and maintenance. "Would have" was stated because the effort terminated without any production system being delivered.

Fourth, Creating a Valid, Reliable and Repeatable RFP. An RFP is a Request for Proposal. RFPs are intended to be the terms, conditions, and specifications of work to be done by some other organization. For government agencies, the other organization is often a contractor. For large corporations the different organization may either a contractor or a different internal organization.

The most critical aspect of an RFP is that it is valid, reliable, and repeatable. If the RFP is not valid, reliable and repeatable, either the procurement will be bad, protested, or it may lead to a failure in the business information system development and deployment. This is essentially what just happened in a very critical, national security, U.S. Federal Government procurement for a $100 + million business information system.

By **Valid**, an RFP must accurately reflect what is needed to be developed. By **Reliable** an RFP should produce proposals that are all priced within a reasonably narrow range, say, +/- 10%. By **Repeatable**, an RFP should produce proposals that are sufficiently similar in technical understanding and work approach from the different organizations bidding the work.

Within the five Whitemarsh data management practice areas, the process of creating the correct technical specification component of an RFP is called Iterative Requirements Development. The RFP technical specification components that are developed are:

- Missions, Scope and User Community
- Data Models
- Function Models

- Developed Information Systems
- Business Event and Transaction Models
- Interface Systems
- System Control Components

These RFP technical specification components are fully defined, and the resulting work products are completely cross referenced. Further, these work products are all stored in a Whitemarsh metabase system database. While it might seem strange to use the Metabase System for this purpose, this, in fact was one of the originating reasons for the Metabase Systems initial creation in the middle 1980s.

Produced from these RFP technical specification components are a series of fuction-based prototypes using Clarion (www.softvelocity.com). These function-based prototypes are validated through cycles of demonstrations and specification product revision. As changes are accomplished, components are updated and cross-references updated.

These RFP technical specification components are all incorporated within the RFP. Incorporated as well are: 1) a copy of the Metabase System and the metadata databases that contain the browse-able and cross-referenced specifications, and 2) a complete set of the prototypes that can be downloaded and executed on the bidder's computers.

The resulting set of materials that form the technical-foundation of the RFP are valid, reliable, and repeatable. They are **valid** because the function-based prototypes that are cycled through the functional and technical subject matter experts "tease out" the naturally occurring and intrinsic hidden requirements. Hence the specification, as evidenced by the RFP technical specification components and functional prototypes, "is" what is required.

The work products that are to be developed into a production system are **reliable** mechanisms to produce bids in a narrow price range because all the work products are identified and detailed to such an extent that there's very little room for guessing. This of course assumes that the bidders have experience in developing the business information system evidenced through the RFP technical specification components.

The work products are **repeatable** because the overall process to build a business information system has been documented and validated for many years. Hence the proposed process employed by the bidders will be essentially the same.

In summary, because the RFP technical specification components are valid, reliable and repeatable, the resulting bids are likely to enable the correct selection of an implementation contractor that will accomplish a correct implementation the first time.

There are two natural reactions to the accomplishment of this work by the contracting-organization. First, that these products should be the bidder's responsibility, and second, it's too costly.

As to the first reaction, it's the bidders responsibility, if that were appropriate, why are the majority of development efforts late, cost more, or be less than expected? In the Standish Group's "CHAOS Summary 2009," report, it stated,

> "This year's results show a marked decrease in project success rates, with 32% of all projects succeeding which are delivered on time, on budget, with required

> features and functions" says Jim Johnson, chairman of The Standish Group, "44% were challenged which are late, over budget, and/or with less than the required features and functions and 24% failed which are cancelled prior to completion or delivered and never used."

Could it possibly be because the requirements are not fully known at time the work is bid? In a study of 13 $100 million IT failure analyses by the U.S. Government's Accountability Office, more than 50% of these failures were attributed to the requirements and design phases of IT efforts. Again, could it possibly be because the requirements are not fully known at time the work is bid? Iterated and validated requirements and prototyped-based functional designs are manifest through the RFP technical specification components.

As to the second reaction, cost, based on a start-from-scratch effort, the likely cost is about 5% of the business information system's implementation. In the recent $100 million IT failure on which Whitemarsh performed the data management IV&V function, the cost to develop these RFP technical specification components would have been 1%. Whitemarsh suspects 1% would have been very easy to justify. The reason why the cost is so little is that the objective of this effort is not the actual business information system but the development of valid, reliable and repeatable set of business information system specifications that can be bid by a set of contractors.

Once the contract is let for the development of the business information system, the Metabase System's database can continue to be loaded with lower levels of detailed business information system specifications and implementation metadata. This has been done in the past with the result that when the last line of code is created and/or the last module tested and turned over, the Metabase System can be used to generate a complete set of requirements, design, implementation, system, and end-user documentation almost automatically. Additionally, the metabase system's continually updated database becomes the traceable and continuously updated specification of the implemented business information system. Thereafter the metabase system and database becomes the "living" foundation for all business information system evolution and maintenance.

Fifth, Whitemarsh Data Management Practice Areas. The five Whitemarsh data management practice areas are:

- Quality Assessments
- Data Management Programs
- Communities of Interest
- Iterative Requirements Development
- Independent Verification and Validation

We have a several hour presentation on these data management practice areas and will deliver this presentation to you and/or your organization. For organizations in the Philadelphia to Richmond metropolitan areas, please call to arrange an in-person presentation. For organizations

outside these areas, Whitemarsh is willing to set up a GoToMeeting session for groups of 15 or fewer. We will also travel to your site for a reasonable fee.

The Whitemarsh Quality Assessments enable the creation of a CMMI (Capability Maturity Model Integration) data management focused assessment for organizational data management programs, projects, and organizations. Not only are these assessments accomplished, prescriptions for addressing the findings are provided. These prescriptions are based on the 35+ years, experienced-honed Whitemarsh data management program materials.

The Whitemarsh Data Management Programs are an extensive collection of policies, procedures, workshops, costs, estimating strategies, methodologies, and the Whitemarsh Metabase System focused completely on the successful completion of database-centric projects. These have been developed over the past 30+ years for Government and Industry projects.

The Communities of Interest (COI) practice area offers engineering and management expertise to accelerate the development of a number of the RFP technical specification components. Whitemarsh's support can be from performing the complete Secretariat role to performing IV&V activities of the COI work plans and on-going work products.

The Iterative Requirements Development process is detailed in the first phase of the Whitemarsh database project methodology, Preliminary Analysis. This phase is presented through a Work Breakdown Structure of over 500 tasks. The Whitemarsh Metabase System's functional models are clearly identified, and a complete example of functional prototype development through Clarion is documented. This approach is also thoroughly accomplished in a Whitemarsh workshop.

The Whitemarsh Independent Verification and Validation process is focused on data management. It is thus focused because the complete set of data models (data elements, concepts, logical, physical, DBMS, and view data models) are the common intersection of the majority of all the business information system developed work products. The 60+ page IV&V document details the full the work breakdown structure, deliverables, and cross reference across all these deliverables.

Sixth, Whitemarsh is having a Fall 2010 book sale. We're combining several books together as bundles especially because several of then directly related to topics in this NewsLetter.

Please visit the Whitemarsh website, read-awhile, and download some data management materials. Finally if you have any questions, please email me directly at mmgorman@wiscorp.com.

Regards,

Michael M. Gorman