

# US Lumber Builds a *Modern Data Warehouse* with WhereScape at its Foundation



U.S. L U M B E R

## US Lumber

**Industry:**

Construction

**Location:**

Georgia, USA

**Employees:**

2,000+

**Solutions:**

WhereScape® 3D,  
WhereScape® RED,  
WhereScape® Data Vault Express,  
SQL Server

## Highlights:

- Data warehouse modernization project completed
- Disparate ERP data sources now integrated into a single source of truth
- Time to assimilate data from newly acquired companies cut by 50%
- Agile methodologies enabled for closer collaboration with the business

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Marc Porlier, BI Manager at US Lumber

## About US Lumber

US Lumber is a specialty construction products distributor headquartered in Duluth, Atlanta, Georgia, and employs 2000+ people. It has branches on both coasts of the United States and across every province of Canada.



## The Challenge

The company has been in acquisition mode for the past eight years and is enjoying a period of ambitious growth. It increased from seven distribution centers in the eastern states in 2013 to over 30 distribution and manufacturing centers all up the east coast, across the Canadian provinces and back down into Washington state. During this time the team of 200 grew to over 3,000. This prosperity meant much work for the data team of three, led by US Lumber's BI Manager, Marc Porlier, who make up a small chunk of the 22-person IT department.



When a new acquisition is made, the team must map and assimilate often disparate data sources systems and naming conventions into their own data warehouse. To make matters more complicated, the legacy data warehouse was custom-built and wasn't sufficiently robust or scalable. US Lumber has five ERP systems feeding into the data warehouse and will potentially have more in future.

"The big challenge is to get data up and into our database even before we have a chance to integrate it into our own systems. We have to start reporting on their data before we can map customers, branches and other fields, so we can integrate it into our own system. We needed a way to flexibly handle that and continue reporting on the data. We were writing out our own stored procedures and SSIS packages and doing it more or less by hand. It was obvious that wasn't going to work," said Marc.

The workload this presented to his two direct reports in the data team and three other consultants available to him was beginning to overwhelm them. It prevented them from working effectively and keeping pace with the growth of the business. It had reached the point at which they required a new data warehouse with a new modeling style.



## The Solution

After searching online, Marc discovered the Data Vault modeling style and decided it could potentially handle US Lumber's needs. Its agility stood out in particular, considering the number of disparate data sources his team must assimilate to do its job effectively.

"Data Vault looks simple but is deceptively complicated. You can understand the business concepts, but when you start implementing it with all your different data sources it quickly becomes hundreds of tables and transformations. The sheer number of entities, hubs,

links and satellites, and the ETL needed to handle that makes it hugely complex."

US Lumber soon realized that Data Automation software was necessary for a Data Vault project and started searching for a suitable vendor. Marc found WhereScape online along with another couple of tools but decided that WhereScape was the superior choice after watching a short online demo.

"WhereScape has an excellent solution for handling Data Vault complexity and making it possible for our team, which was at the time just two people on the data warehouse, so we could never have done it manually. WhereScape provided the ability to get a Data Vault

together, into a business vault and out to the data marts. The only other option would have been to get three other developers to work on it non-stop.”

WhereScape has two main tools. WhereScape RED enables data-driven design by letting developers make models with their actual data via a drag-and-drop GUI, then use a code generator to physicalize the model by automatically writing thousands of lines of code in seconds. But for more complex architectures such as Data Vault, often model-based design (making a detailed blueprint of the design before the build takes place) in WhereScape 3D is more suitable.

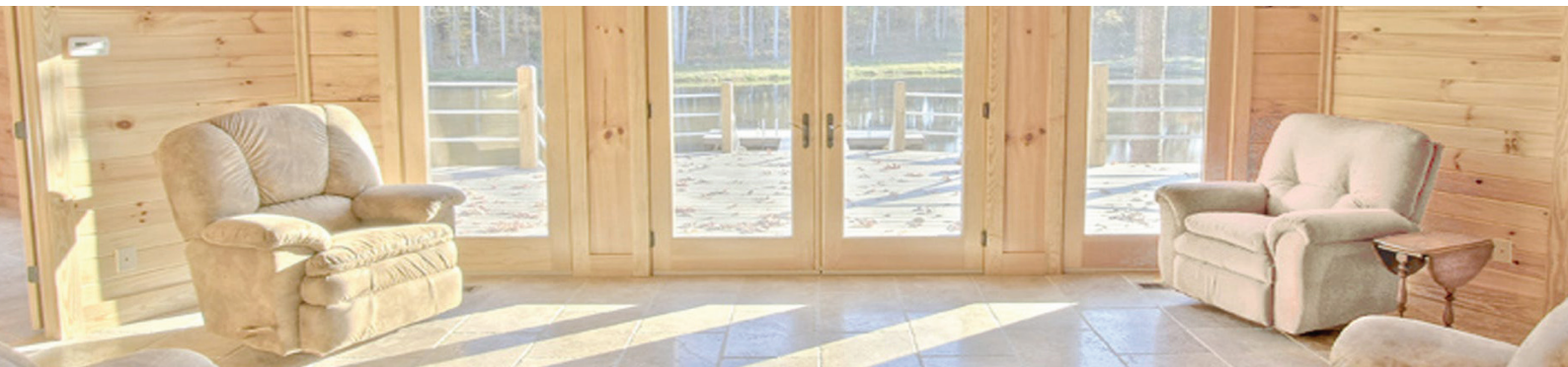
3D scopes and audits data from all sources then enables detailed prototypes to be spun up quickly. Once the design is approved by all stakeholders to ensure all business requirements have been met, it can then be physicalized in RED.

Marc explains: “It was WhereScape 3D, the modeling tool, that I was amazed with. It was a good tool when I first saw it in 2018, and it’s become a lot better since

then. We used it a lot at the start of the project. 3D gave us an excellent way to read over the entire database, get the stats and the load tables in through the staging area and into the raw vault. It was amazing to me how it could do all of that with nothing more than a GUI and with no hand coding.”

With WhereScape selected as the basis for US Lumber’s data warehouse modernization initiative, the first task was to build a new, temporary data warehouse to bolt onto the existing one. “The chief reason we have WhereScape is to integrate all the systems together,” said Marc. This pulled data into supplementary tables, which assimilated data from US Lumber’s various source systems much faster. That process was completed very quickly and enabled acquisitions to happen faster and smoother.

Then there is a separate, more long-term project of replacing the legacy data warehouse with one that will sustain the growth of the business for years to come.



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## The Results

Whereas it used to take a few months to get data from newly acquired companies into the data warehouse, the team has reduced this process significantly.

David Livingston, Director at US Lumber, explains: “We want to integrate a new business’ data into the data warehouse in 45 days. A lot of that is on the Ops and Accounting teams, with the business mapping activities that have to happen first. Then Marc can use WhereScape to roll it into our environment. Realistically we are looking at a 50% reduction, from three months down to 45 days.”

With the data team having been able to support new acquisitions faster for some time, the data warehouse modernization project is nearing completion, with a switch over to the new infrastructure imminent. So how did the project go and what have been the benefits of using an automation tool?

Marc had this to say about Agile development in WhereScape and the ability to fix bugs quickly: “Because of automation, there has been more time to get concepts right and collaborate with the business side. It’s easy to drop everything that doesn’t work and rebuild it in WhereScape.

“Doing the same thing in an SSIS package is a nightmare, especially if someone hasn’t documented the data tasks properly and they are just numbered. It’s the worst kind of debugging you can imagine; you have to lift up every rock and see if it’s under there so it could take half a day for one bug. With WhereScape



it’s a lot more objective and intuitive. WhereScape gives you a very nice visual representation of the flow and you can just drill down into particular lineages to find out what’s going wrong. It’s just faster to debug and fix.”

David summarizes the project since US Lumber switched from hand coding to automation: “We’ve been using WhereScape for three years now and we’re really sold on the product. It’s made our project possible. The out-of-the-box templates have saved weeks and months of work, and we know we can build our own solutions on top of that using the Pebble programming language, which is easy enough to learn if you’ve used other languages before.

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