



white paper

# **Why Graph is key to the modern Master Data Management movement**

[www.cluedin.com](http://www.cluedin.com)

## Why Graph is key to the modern Master Data Management movement

It is widely acknowledged that implementing Master Data Management (MDM) programs is hard, really hard. It's complicated, expensive and time consuming – with no guarantee of any tangible outcome. With around three quarters of all MDM projects failing, it is not surprising that many business leaders are reluctant to commit to these types of initiatives. The problem then is that the potential value of their data is never fully unlocked, and the insights and efficiencies it could drive are never realised.

So, what's going on? Have enterprises, with their wealth of technology talent and generous resources, been managing their MDM projects incorrectly for the past 25 years? In a way, they have, but not because of any inherent lack of understanding or skills. There are many reasons why MDM projects fail, and one of them is the technology stack. Traditional systems and tools have forced organisations to approach these projects in a particular way, and often this has led to issues from the outset.

The way in which organisations operate has changed significantly over the past couple of decades. The shift to the Cloud, home and remote working, and demand for always-on customer experiences has meant that many industries have had to reinvent how they deliver products and services to their customers, keep employees happy and strengthen partner relationships.

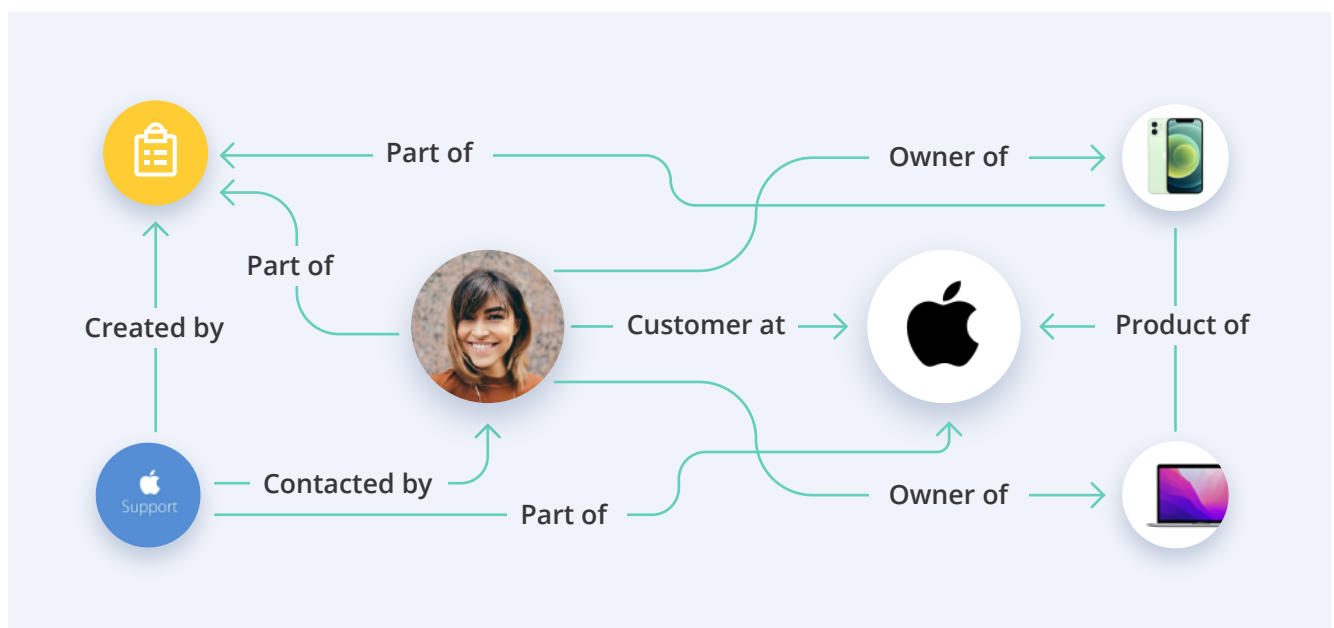
The modern commercial environment insists on a more fluid, flexible and scalable approach to doing business. This is completely at odds with the highly structured and siloed way in which traditional Master Data Management platforms are designed. Which means that, far from being a catalyst for improved customer engagement and enabling efficiencies, data has become a blocker to digital transformation initiatives and is holding the business back.

As with most industries and categories that have stalled, there comes a point at which the status quo must be broken. For Master Data Management, that time is now. The industry is on the brink of a major disruption, and a line will be drawn between the old world and the new. One of the key facilitators of this change is the Graph Database.

## What is a Graph database?

The idea behind Graph is that databases don't need to define a structure upfront before hosting data. In the world of Graph, the relationships between the data are as important as the data itself. Think of a social network, an air traffic control system or international shipping routes. The objects and endpoints are all essential, but the connections between them are just as vital. A Graph database stores data as nodes and relationships, as opposed to tables and columns. By not having a pre-defined structure, the patterns and connections between the different data points can surface into a natural data model. This is known as a NoSQL, or schemaless approach.

It is important to note that certain Graph database do require a schema upfront and have not embraced the NoSQL approach. This does not make them worse or better, it makes them appropriate for solving different parts of the data journey.



## **How Graph databases are transforming Master Data Management**

Graph by itself is NOT the future of Master Data Management. It is one – albeit important - factor that is driving the much-needed disruption in this market. For example, at CluedIn we have what is known as a Polyglot Database Architecture, which means we use many different databases of different types to process and persist data. Graph is key because it adds a new dynamic to MDM and starts a new group of discussions - discussions that need to be had in the MDM space.

When data is stored in a Graph database, we can ask different questions of it and get more insightful answers. For example, an MDM system which does not utilise Graph might be able to tell you that 47% of your customers have only ever made one purchase from you.

By contrast, the modern MDM system could probably tell you that of those customers 32% contacted your customer support team about a similar issue within the past year and 15% have left a positive online review for a competitor's product in the past six months. Suddenly, you have much more weaponry in your arsenal to win those customers back.

## **Accelerating time to value with modern Master Data Management**

The fundamental differentiator that Graph has allowed modern MDM vendors to capitalize on is eradicating the need for upfront data modelling. Instead, we delay modelling until the system has had the opportunity to analyse the data and form a natural data model. By ingesting data in its raw state, regardless of quality, platforms like CluedIn are saving companies months of time, hours of effort and countless additional costs. This is part of the reason why CluedIn is 80% faster to implement than traditional MDM systems.

Advanced MDM platforms like CluedIn will automate the vast majority of the data cleaning process as well. There are many common data errors which we see again and again – phone numbers in different formats, countries abbreviated and in long-form, missing digits and salutations. There is no reason why you should have to fix those errors – your MDM system should do it for you. Any anomalies or unknown errors can then be flagged to and addressed by the relevant business user, without having to go via the IT team.

Another important benefit of the zero modelling approach is that it directly supports the process of onboarding new datasets without interruption, because your data doesn't need to fit into any predetermined model. To clarify, this doesn't mean that modern MDM is akin to a Data Lake – the two are very different. A Data Lake will allow you to host data in different formats - think of it like a File System in the Cloud – and does not offer data modelling. A modern MDM platform like CluedIn does offer data modelling capabilities, but does not force you to do it in a rigid structure early in the process, allowing you to get up and running and start delivering quick wins to the business much more quickly.

Eventually you will put this data into a stricter and more refined model - just not yet. Graph is fundamental to supporting this as it provides a safe space for data to land in any model and as part of any structure. Its adaptable nature means that for every new record that is ingested, the model and structure will change accordingly.

Data modelling flexibility is by far the most exciting part of the Graph offering, and until now has been the critical missing piece in MDM. There is a trade-off, however, as flexibility brings its own issues. For example, a schema often improves performance, predictability and data integrity. Isn't that exactly what we want from an MDM platform? Yes, absolutely, but crucially it isn't the first thing you need to achieve. With such a high rate of failure for these types of projects, the priority should always be to extract value from your data as quickly as possible – ideally through a series of quick wins plotted against the most impactful use cases

## The future of Graph in modern Master Data Management

We firmly believe that within the next 2 – 5 years, no one will be investing in Master Data Management systems that are not supported by Graph databases. This is not because it is a magical database that solves all of the legacy issues associated with MDM. It is however the bridge between the old world and the new, and a vital enabler of the first genuine quantum leap forward in MDM for over 25 years. Whether you are exhausted and frustrated by the MDM initiatives you've attempted in the past, or if you're about to embark on your first project, Graph has to be at the top of your checklist when evaluating which vendor and solution you're prepared to put your faith in.

Want to experience  
Graph-based MDM for yourself?

[Book Your Demo](#)

