THOUGHT PIECE

Climbing Mount Probable

Contact us
T 02380 111 420
E info@i2owater.com
2 Vancouver Wharf, Hazel Road
Woolston, Southampton, SO19 7BN, United Kingdom
www.i2owater.com

THOUGHT PIECE:

CLIMBING MOUNT PROBABLE

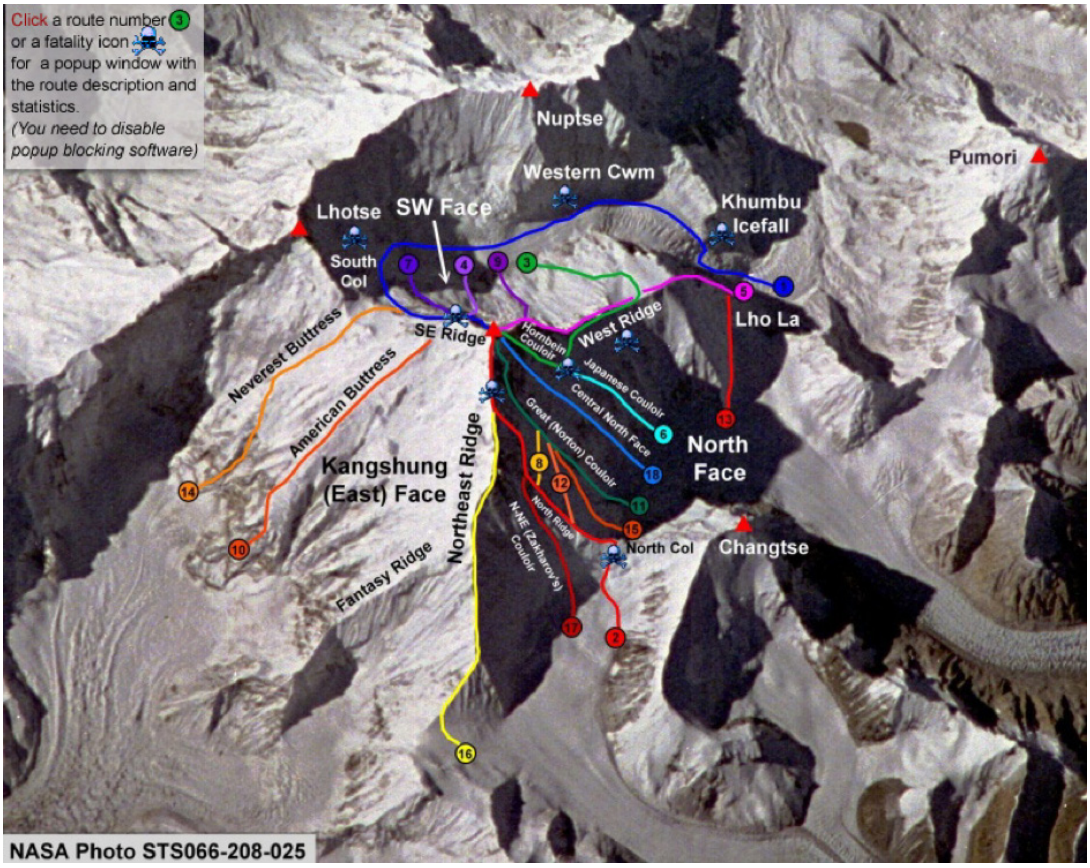
This thoughtpiece is designed to help water company directors, senior managers and strategists understand the likely evolution of software solutions to support the management of the water distribution network.

The mountains to be climbed represent enterprise software that supports key processes in the water industry. The mountains that are water treatment and customer service/billing/finance were summited many years ago with SCADA and ERP. But the mountain still to be climbed is the water distribution network. Today there are multiple software products supporting diverse processes but no single enterprise grade product.

From mountain-climbing we know that it takes time to establish the best routes. Until they're established there will be many attempts that don't make it to the summit. We suggest what some of those false starts may be.

From Richard Dawkins (Climbing Mount Improbable) we know that the software solution we need won't just appear fully formed, it will be built through multiple iterations.

And finally, from the evolution of ERP systems for customer service/billing/finance, we know that there are some core components around which other functionality coalesces, and we propose what that might be.



Map created by Pete Poston

Contact us
T (+44) 02380 111 420
E info@i2owater.com

2 Vancouver Wharf, Hazel Road, Woolston
Southampton, SO19 7BN, United Kingdom
www.i2owater.com

THOUGHT PIECE:

CLIMBING MOUNT PROBABLE

Today, 98% of all Everest climbers choose between the Northeast (Tibet) and Southeast (Nepal) Ridges. They do so mainly for political reasons. The other routes are too dangerous, too difficult and not commercially guided.

It was not always thus. The same basic route that is now followed was pioneered in 1953 by John Hunt's British expedition. But many other routes and variants were tried over many years with the earliest attempts ending in failure, and many deaths, before Hunt's route became the accepted one.

This is a reasonable analogy for the development of new enterprise software products.

Today people choose between SAP and Oracle, mainly for political reasons.

Those and other enterprise systems have been through long journeys from their origins. The pre-cursor of ERP systems was inventory control systems. These got merged with materials requirements planning systems and became manufacturing resource planning. And the systems continue to evolve as modules are added over the years.

SCADA is settled as the enterprise system for water treatment. It is designed precisely for industrial controls that are managed by engineers in a site-based situation.

ERP/CRM/CS/billing software packages are settled as the enterprise systems at the customer end of the water business.

But we are currently in the pre-history of the enterprise system for the management of the water distribution network. We have started to climb Mount Probable. And right now there are a number of base camps established, with some tentative movement forward from those.

GIS provides a system of record for the geo-location of assets. Geo-location is important for the network, unlike site-based water treatment, because it's spread over a wide geography where location and topology is highly relevant to its operation.

Modelling software has been used as a tool for network design. It's been heading in a direction of 'live' (though not really live as data mostly isn't available in real-time), and hanging on to the coat tails of the marvellous marketing speak "digital twin." In some ways the inclusion of up-to-date data compensates for the weakness of modelling, as 'real' data can be used to correct assumptions; in other ways models will always be limited by the assumptions made in them.

Data logging software has been used to collect data about pressure and flow from the network, sometimes to visualise it, and sometimes to add some basic value to it. It is also used for alarms but here there is duplication with SCADA functionality, and often multiple providers' systems are in use.

Contact us
T (+44) 02380 111 420
E info@i2owater.com

2 Vancouver Wharf, Hazel Road, Woolston
Southampton, SO19 7BN, United Kingdom
www.i2owater.com

THOUGHT PIECE:

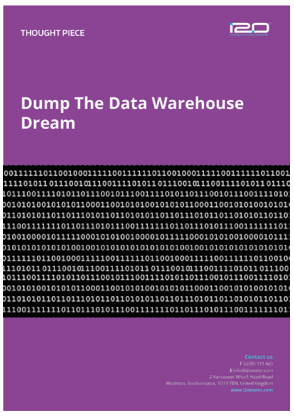
CLIMBING MOUNT PROBABLE

Data historians are used to archive time series data – common to industrial processes - from SCADA, because relational databases were ill-suited to this. There is now a much wider range of tools for storing and accessing time series data, including those based in the cloud, which offer much more elastic and affordable storage.

Data analytics software is starting to be implemented. In its most basic form, that's Excel. In a form that's perhaps too advanced, generic big data analysis tools. Somewhere in the middle are tools that are designed to deliver industry-specific insights. Experience of other industries suggests there will always be some bespoke analytics done offline in Excel, Access, or more powerful tools like SAS, Tableau. But that the mainstream of analytics required routinely will be performed by an enterprise system.

And then there are a myriad of project based software/hardware tools whose data and insights are restricted to their own proprietary island.

We continue to believe that a single data store will be a white elephant. Please refer to our previous thoughtpiece:



To download the full thoughtpiece, please click here, or visit:

https://en.i2owater.com/wp-content/uploads/2021/01/i2O_Thought-piece_Dump-the-data-warehouse-dream_2020.pdf

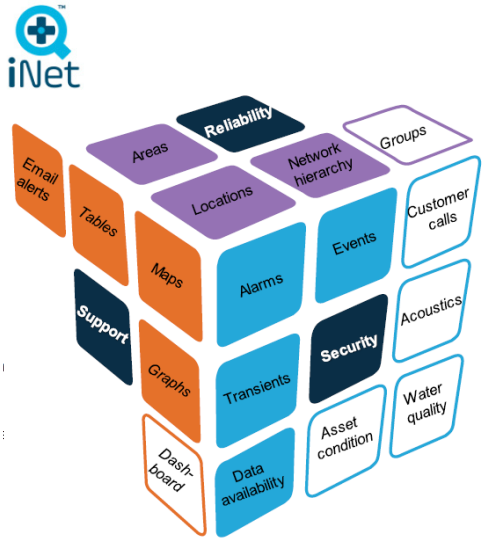
Today it is easier than ever to connect systems using APIs and middleware. They enable different systems to call and send data between them. Building a centralised data store is an expensive and time consuming project, the result of which is likely to be a massive data cleansing project, adding time and cost, and an increase in latency in relation to the availability of relevant information. This is a route up Everest for specialist climbers, and for which death rates soar.

Many of today's components are going to get integrated into a single package. But that is going to take decades. In the meantime, they will likely co-exist and need to be integrated through APIs and middleware.

However, you really want important notifications pushed to you when there is a high degree of certainty that they're correct and relevant, and this will require some correlation by one system which assesses accuracy before sending. And you want only one place to review actionable insights, rather than needing to access multiple systems. That place for review will require maps, and tables, and graphs, and dashboards that aggregate data and insights from a variety of sources.

For this, i2O has built iNet, on top of data logging software that was originally proprietary to its own devices but which is now hardware neutral.

And we expect this ultimately to become a core part of the route that 98% of all climbers of Mount Probable, and all users of water distribution management software, will choose.



Sources:

https://www.alanarnette.com/blog/2017/12/28/comparing-the-routes-of-everest-2018-edition/

https://www.explorersweb.com/webtv/videoconsol_everestarial.htm

Contact us
T (+44) 02380 111 420
E info@i2owater.com

2 Vancouver Wharf, Hazel Road, Woolston
Southampton, SO19 7BN, United Kingdom
www.i2owater.com