



“GIS-Systems need opening up”

Dr. Walter G. Kienle is the head of EAM solutions management concerning PTU industrial solutions at SAP AG (a public corporation) in Walldorf. In a discussion about the solutions available, he presented new trends in IT-supported asset management of the power supply industry and disclosed new ways of integrating GIS systems.

Dr. Kienle, you’ve had a significant influence on SAP strategy in the fields of power supply and asset management. In what respect has this subject developed over the past few years at SAP?

In asset management we have perceived that the responsibilities and processes concerned are currently subdivided into those operating the system, those who own the facilities and those in charge of service and maintenance of the facilities. Parallel to this, we’ve attained a certain maturity in terms of software solutions as well as their technology and architecture, meaning that we’ve now shifted attention away from individual functions towards the organization of business procedures. Generally speaking, the supply industry is under review to see how various processes can be standardized and how the latter can be flexibly reorganized or designed to meet the demands of the market.

Which areas of the power supply industry do you currently see as having the greatest potential in achieving greater economic efficiency?

On one side, we have to meet the requirements of opening the market and its deregulation. Associated enterprises which were interconnected up till now are to be unraveled. This provides competition on the one hand, and the emergence of additional administrative process-costs, where new communication arises, on the other. One main objective is taking a grip on process-costs again. On the other side, we have noticed in asset management that an optimization potential exists in terms of the pool of facilities. In this case, the total output of the facilities is borne in mind as well as the capital expenditure necessary and the return on investment anticipated. In other words, the overall life-cycle of the facilities is kept under observation with a view to

detecting any optimization potentials, e.g. with regard to maintenance costs.

Are these the same subjects the power supply companies are approaching you with at present, in order to obtain optimal market assertion?

Yes indeed, the discussions of the past few years were mainly preoccupied with the optimization of IT strategy. On the one hand, I’ve been obliged to change certain things in my own IT environment, induced by deregulation, or, on the other hand, I’ve had to apply asset management wherever we had to deal with any of the numerous applications complementary to SAP, such as NIS, GIS, EDM-systems etc. We’ve noted that adjustment and clarity are necessary if one wants to work more effectively. Our objective is to set up future-oriented IT with a view to keeping costs under control and reacting flexibly to the demands of the market, e.g. on

regulatory intervention, where limitations in operating the IT systems arise, or when new enterprises are created as a result of deregulation. Network companies set up their own business and have to look around for IT systems and analytical tools with the objective of strategy development and optimal business management.

In 2004, you introduced SAP NetWeaver technology and architecture to the market. In addition to which you are cofounder of the SAP PM (plant maintenance) module. To what extent has SAP NetWeaver technology already become apparent so far for SAP PM users?

The NetWeaver components where we've shown our presence to date, particularly in PM and asset management, are SAP portal applications on the one hand, and the mobile component "mobile asset management", by means of which the suppliers can process information, e.g. during the inspection of field stations or on control tours along the supply lines on the other hand. In addition to this, the subject of analysis and knowledge-management is currently being put into practice, e.g. for improving maintenance work strategies. A further aspect is **Platform Technology XI Exchange Infrastructure** or combining the complementary systems of administration, operation and monitoring of the technical facilities. An additional component of NetWeaver is **Master Data Management**, which is of advantage where the functional roles of the asset owners, the asset operators and the asset service providers in and around the facilities are divided. Use of the keyword "Asset Hub" means that the entire master data can be administered with a single server, and that the functions involved can be accessed via "Services". Otherwise expressed, a **suitable central docking station exists for the purpose of coupling the complete facility data to complementary systems such as NIS, GIS or Scada.**

What effects on economic efficiency in terms of asset management do you think will result from the integration of SAP and GIS?

This subject has been driven forward by the fact that applications have been used in both

the GIS world and the SAP world with the purpose of data management, but without interlinking these two worlds. The applications I have, of adding a GIS system, capturing and digitizing the data, have shown a considerable advantage when I align the master data and combine the GIS system into business management processes. If I have 170,000 objects in one system and 215,000 objects in another, and know that 70 to 80% of the objects are identical, this justifies the introduction of such a coupling. Later on, after the data inventories have been synchronized and tidied up, I can take up the lion's share, i.e. by integration into the business procedure.

Mettenmeier GmbH has completed two integration projects to date, coupling Smallworld GIS to the SAP "Business Connector" in the process. Alongside this, there are a number of projects where the "GIS Business Connector" and, more recently, Platform XI have also been used. What would be your technological advice to a power supply company that would like to start up an SAP-GIS integration project tomorrow?

The SAP standard "Business Connector" function is also on offer as a function of Exchange Infrastructure (XI). The "GIS Business Connector" (GBC), on the other hand, similar to XI, is available on only a single application server. The question of when and what is to be used is very much dependent on the target of the customer. The GBC was developed with the idea of combining SAP with one or several GIS systems, whereas XI provides a platform for connecting more than one complementary system to the SAP system. In a number of projects, however, we have reached a threshold where XI can indeed be run parallel to the GBC. In this case, XI takes over its functionalities. In other words, **it is not our objective to pursue GBC as an industrial component in the longer term, but rather to replace it by the general XI landscape.** If anyone would like to set up a coupling of GIS to an SAP system today and in the short term, however, a startup with GBC and a clear conscience is perfectly possible. On the other hand, however, we have a concrete case at present where,

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as a result of regulatory requirements, an enterprise has to run two SAP systems separately, one for the assets and one for the customers. If I now wanted to connect GIS systems as well, it's quite clear that I'd use XI as platform. In this case, a GBC solution would generate unacceptable expenditure and effort.

XI is frequently considered to be complex. How would you react to such assertions?

XI provides us with more opportunities and flexibility to dock further systems into this platform later on. It must be admitted nonetheless, that setting up the system may cost more time and effort under certain circumstances, especially where the organization of SAP-GIS coupling functions is concerned. In this case, however, things can be simplified for the customer again by pre-configuration. Although we're not in personal control of every GIS product, we work in close cooperation with partners who are specialized in the coupling of SAP supply solutions with the GIS and who are aware in such cases of which software suites and models are present in the GIS concerned. The said partners then pre-configure the contents available at the user interface.

Mettenmeier GmbH has also developed a connector to the SAP system, the so-called NRM-EIS, which is pre-configured for Smallworld GIS and the software suites in the way you described. This must exactly match your interests.

We have repeatedly perceived that it is often not the primary objective of the GIS producer to proceed along such lines, but rather that of implementation partners who take on this task and see the necessity to create and pre-configure user interfaces in a specific way for their projects. This is exactly the situation where products are sensibly developed and which subsequently lead to good results for the customer and the system producer.

The Mettenmeier GmbH solution is based on service oriented architecture, placing Smallworld data and functions as services at the disposition of the customer. How do you assess such an approach and how far is this compatible with the strategy of SAP?

What we are doing at the moment is adaptation of the NetWeaver application to fit so-called Enterprise Service Architecture (ESA). This means dismantling the monolithic structure of today's functions and providing access to the individual functions via an enterprise service in such a way that SAP applications, working together, as well as with other applications, are able to communicate with SAP about such services. This is the foundation required for designing new processes or improving the flexibility of existing processes. The GIS systems also need to be opened up, in much the same way as we are doing with ESA. The contents of the GIS systems have to become available as services and made known to the outside world. This is exactly what the Geoscientific

Institutes of the Universities and, last but not least, the customers themselves would like to see today. **In future we will have geo-data services which** cannot only be linked to ERP applications, but will also **make GIS systems accessible in their entirety to a broader public.** If we imagine these ideas in practice today, an abundance of different applications comes to light where centralized access to such services would be available with the objective of a subsequent uniform design of the process interface. In network or outage management, for example, where direct geo-reference is present. In such cases, objects and processes will be focused on which although closely interlocked with geographic features nevertheless penetrate the operational world of the ERP system directly.

INFO

Dr. Walter G. Kienle



has been engaged in activities at SAP AG since 1984 and was cofounder of the SAP PM servicing solution, after which he became the development manager responsible for service management. As from 1997 his attention switched to specific solutions for the supply industry. As head of development he is currently re-sponsible for the subject of asset and work management, with emphasis on power supply company processes, user interfaces to external systems (GIS, NIS...), portal solutions and mobile solutions. Alongside his development work, he conducts numerous advisory projects.

The Smallworld system is following the SAP defined Connector NRM-EIS standards, fulfilling the demands on XI, and is currently being certified by SAP. How important is the compatibility of such solutions with the standards you have created?

On the one hand, this is a matter demanded by the customer. Where invitations to tender are concerned, the customers define which of the four or five main products should be focused on in the IT landscape. The customer knows that not everything can be obtained from a single source, but would nonetheless like to be sure that everything flows as from a single casting, and that the systems are able to communicate with each other in a sensible way. For this reason a close look is being taken as to whether the said products are compatible with each other. On the other hand, it is an important argument in the large systems marketplace if one possesses an interface which can be docked into by current ERP systems in a well-tested manner. Logos of certification such as "powered by NetWeaver" or "NetWeaver certified" provide appropriate advantages when used for marketing purposes.

Dr. Kienle, many thanks for this conversation.

This Interview was conducted by Ingo Rameil