An **interview** with **Harald Lemke**

Markus Klimmer

McKinsey: *Harald Lemke, a CIO in the public sector—does that really make sense?*

Harald Lemke: Public-sector processes have depended on well-functioning information technology for a long time now. The cost pressure, demographic trends, and demands of modern society increasingly require cooperation in public administration; buzzwords here are the "one-stop agency" and "shared service centers." An imperative of this sweeping change process, additionally driven by the EU Services Directive, is increased networking and integration across IT systems. To achieve this, a cross-agency strategy and IT architecture need to be developed and established, and this process has to be organized.

So my answer is: a CIO in the public sector not only makes sense but will be essential going forward.

McKinsey: *You are not just a CIO but a Permanent Secretary in the Ministry of Finance and the Ministry of Interior—something previously unheard of. Why is that?*

Harald Lemke: A cross-agency IT strategy can only be successfully implemented in close collaboration with all ministries. Two "weapons" are indispensable here: access to decentralized IT budgets, and the possibility of protecting standards from the organizational and legal point of view. These two areas are handled by the Ministries of the Interior and Finance, so in Hesse we decided to assign the CIO organizationally to both ministries.

Also, the central IT service provider for the state government, the HZD,[1] reports to the Ministry of Finance, while the decentralized state administration structures are bundled in the district Chief Executives'

[1] HZD: Hessische Zentrale für Datenverarbeitung (Hesse State Government Data Center)

offices, falling within the remit of the Ministry of the Interior. Experience has shown that the direct influence of the CIO on both ministries' structures accelerates the cross-agency standardization process.

McKinsey: *Five years as CIO in the state of Hesse: how would you sum them up?*

Harald Lemke: I believe we can be proud of our achievements, as the following examples show:

- We have standardized and consolidated the IT infrastructure, consisting of a large number of different networks, directory services, and mail servers. All the IT processes of Hesse's state administration are now based on a common infrastructure.
- We have migrated more than 300 different internal and external websites to one shared enterprise portal, which not only houses content management but also acts as an integration platform for our manifold user systems.
- All the state administration's resource management, ie, financial accounting, cost accounting, human resources management and accounting, and sourcing have been ported to SAP. This move bundled a lot of resource management processes into cross-agency shared service centers.
- To support the original administrative processes, we implemented a standardized and centralized document and workflow management system. We mapped the central government processes onto it electronically, top down.

The bottom line is that Hesse has adopted a pioneering role and is also

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Vital statistics
Born 1956, in Reinbeck. Married with two children.

Education
Degree in information technology from the University of Applied Sciences, Hamburg

Career highlights
Harald Lemke started his career as a software engineer with Digital Equipment

His next employment was Nixdorf Computers, City of Hamburg and IBM, where he was appointed as expert profession in project management

When the city of Hamburg struggled with its police IT projects, Mr. Lemke returned as IT manager to the Police Department of Hamburg in order to innovate their entire IT infrastructure. Mr. Lemke then was appointed head of IT of the Hamburg police force authority

In 2003, the prime minister of the State of Hessen appointed Mr. Lemke as state secretary in his cabinet where he is now responsible for IT and E-Government matters. Mr. Lemke is the CIO of the State of Hessen.

engaged in federal e-government projects and the federal Deutschland-Online program because of this responsibility.

However, much more crucial than these operational successes is the following experience: in Hesse, we have shown that consolidation and cross-agency governance of fragmented IT is possible in the public sector if the political will is there. Against this background, the picture is definitely positive.

McKinsey: *You have worked in both the private and the public sector: what would you say are the major differences?*

Harald Lemke: First of all, I would like to point out a feature common to the private and the public sector: IT strategy follows business strategy. Since the public sector's business strategy is defined by law and policy, its IT strategy has to pursue political objectives. This has two main consequences:

1. The public-sector CIO is part of the political leadership.
2. IT projects need to make a political case.

The political case may be an economically motivated business case, but it doesn't have to be. To the contrary, the really important IT projects in public service pursue political objectives that are not decided by their financial ROI. Let's take an example: a large part of the IT budget flows into internal security and the fight against criminality. Efficiency and cost savings are not the only benefits delivered by these systems; the strategic value of modern IT in combating crime and terrorism is a much more important element.

However, there is a special challenge in developing a cross-agency group strategy in a constitutional federal state: e-government can be regarded as a volcanic zone, where the tectonic plates law and information technology collide with particular intensity. From infrastructure through information objects, processes, organization, and competence, direct links are forged between information technology and the law—which would be no problem, if the two ends of the chain were related in character. But they're not.

Information technology, being linked up and integrated, needs standards and is self-standardizing. It relies on speed and efficiency, and its primary aim is to promote cost-efficiency.

Profitability, however, is not one of the goals of public administration: it has to implement the law and is defined by the law. German law has the opposite effect to IT. It divides rather than integrates organizations and processes. Separation of powers, federalism, departmental sovereignty, local self-administration, data protection, allocation, and personal law—all these are divisive rather than unifying constructs.

By this time the conflict is almost tangible: on the one hand, we have the linking and integrative power of IT, which effects standardization via infrastructure, information objects, and processes, and on the other hand we have the law, which aims to prevent precisely this standardization and integration.

Of course, from a business management perspective, public administration could be organized much more efficiently if we had an electronic citizen file to which police, social welfare offices, public

prosecutors, tax offices, etc. had access so that they could swap information. But no one would want to be that transparent a citizen, and in fact our constitution does not want a state like that.

However, we have to face the fact that these legal borders are constantly being crossed in practice and this has serious consequences for the IT structures of public administration.

If, for example, the police and the tax search department cooperate, and eventually a file is posted to the prosecutor and then on to the courts, then IT would be the easiest way to support this flow of information, especially if all participants run IT systems to support their own processes. From the technical point of view, the step from linking different systems to system integration is pretty small—but for most data protectors, it would be one step too far.

But even a truly integrated IT system with a finely tuned access system assuring the highest level of data protection would leave one issue unresolved: how can these consolidated data be protected against misuse by the internal IT operators, who are able to disregard all technical locking mechanisms? At this point, you can easily start hours of debate on basic issues as to how the constitutionally guaranteed separation of power can in actual fact be guaranteed in linked and integrated systems.

I hope this explains how our law influences the architecture of e-government, and why the IT architecture of public administration will always be more complex than that of business.

McKinsey: *It seems your statement describes an insoluble problem . . .*

Harald Lemke: Yes, if you want a plain solution. From a business administration point of view, the conclusion would be simple enough: okay, if your legal framework prevents you from enhancing your efficiency, why don't you change your law? Politicians have the power to do that.

This is a justified question, and quite current at present. So one political issue of today is: should we change our law—even our constitution—in order to encourage higher efficiency in our public services?

I don't want to start a discussion on the basic principles of the German federal structure here, but I am almost certain that a central state administration in Germany would not be good for e-government. Let's consider centralized IT management for all the civil service branches in Germany. It is pretty hard to imagine; you would have to go far to seek an IT organization that compares to our numbers: I don't know of any IT organization that manages 1.2 million PCs and an annual budget of 5 billion euros. And remember, these are only the bare figures. When playing the numbers game, we must never forget the functional complexity of public services. In our economies, most companies have undergone many years of business process reengineering. As a result of this development they are focused on their core competencies, which are organized by a small number of internal processes.

This evolution has left only a scattering of highly diversified conglomerates, and those are punished severely by discounts on

the capital markets. Public service is the most extreme example of such a conglomerate: police, education, social and welfare offices, courts, tax administration, and the armed forces all go to show how broad a range the civil service covers. We can't get rid of these tasks—that's another aspect that differentiates us from industry: in business, anything is possible that is not prohibited by law. Public administration has to do everything the law demands. And its duties are becoming more rather than less onerous—but that's another story.

Of course, public service has to pay a conglomerate discount in terms of considerable technical, legal, and organizational complexity. That complexity maps itself one to one onto information technology, and as you can imagine it's by no means comparable with the business processes of a financial services provider, for example.

Let's think about the following task: imagine an All-Germany CIO," responsible in a central position for a configuration the size and complexity of ours, who has to develop a total architecture that does justice to all of its demands and who then has to transform that architecture into action. I am sure the resulting change project would go beyond the bounds of all control and would end in an expensive disaster.

I believe this has clarified two points: first, why the heterogeneous IT world of our administration is the consequence of our constitutional administrative structures, and second, the fact that administrative informatics has different frameworks from those of business, so we would not be well advised to copy business IT strategies blindly.

I'm not trying to give the impression that IT in public services is an impossible task, and plunge you into fatalism. I only want to avoid fatal ignorance. What I have described is not a problem; it's simply a framework, a very complex framework with objective risks that can become a problem if they are ignored.

I believe that only one strategy can handle this problem successfully: in the beginning, I described e-government as a volcanic zone, where the tectonic plates law and information technology collide. This is quite true, but you can also see this dangerous area as a zone of reason, where public-sector CIOs are responsible for mitigating the risks by fighting against excessive legal and technical garbage.

McKinsey: *Beyond the title on the business card, what do you think makes a CIO? How did you ensure that you wouldn't end up a paper tiger?*

Harald Lemke: There are a number of interpretations of the CIO role. Mine is that the CIO has to ensure that IT supports the business strategy as effectively as possible. That doesn't just mean satisfying the strategic and operational demands of the core business, but also stimulating business development. Information technology is changing our world, our economy, and our lives and making things possible that would be beyond the scope of imagination without it. Its potential can only be tapped if IT strategy is organized as a part of business management.

A particular aspect here is the question of whether the CIO is only responsible for the IT strategy or

for the total IT process right down to operations. In my experience, a strategy is a worthless piece of paper unless it is implemented. The CIO who does not have managerial responsibility for actual change projects and IT operations runs a serious risk of ending up a paper tiger.

McKinsey: *A CIO or permanent secretary is a government function. But IT is delivered through service providers, in the case of Hesse, your very own Hesse State Government Data Center (HZD). How did you ensure that your new direction would be successfully executed by the IT people?*

Harald Lemke: True, the service provider can bring down an IT strategy if it doesn't align its service portfolio with the strategic targets. Hesse ran this fundamental risk, too. In the past, the organizational boundaries between the ministries and the resulting IT silos had a profound impact on the service provider. Human and technical resources were focused on one single ministry, so in many areas services were not consolidated across agencies through the service provider. The provider wasn't really to blame, it was acting on instructions: the customers—the ministries—sometimes explicitly demanded this fortress-building.

To prevent the service provider's bricks and mortar from being the only shared service, we made the HZD take the fulfillment of strategic group targets as one of its objectives. As a result, organizational changes were needed, for example, consolidating infrastructure services into one department in order to establish central shared service architectures.

However, this process does have its side effects. A ministry can't really expect its service provider to follow its instructions to the letter. If the service provider is also given strategic group targets to meet, conflicts of interests may arise if the customer's requirements are not in line with that strategy. It's better, of course, if the service provider doesn't just accept group targets as a necessary evil but markets them positively and actively. For this reason, active acceptance management is needed. That ultimately boils down to a lot of communication and discussion between the customer and the service provider.

McKinsey: *All over the world, it seems to be a major challenge for public-sector IT to get the right people. Any lessons learned from Hesse?*

Harald Lemke: Human resources management (HRM) is the biggest challenge for strategic IT management in the public sector. We have to consider three trends here:

- The complexity of IT is continuing to increase with functional expansion and increasing integration. This has serious effects on the skill profile of our IT specialists because the public sector's diversity means that its requirements are particularly high.
- General demographic trends and the reluctance of young people to go into engineering have already led to a shortage of skilled IT workers that will become much more acute in the future.
- Business has a huge demand for this small band of specialists, resulting in salary structures that can't be replicated in a public-sector agency's pay system.

Because of this situation, public-sector IT already depends on external staff so much that there is some question as to how the public servants can keep control in the long run. Hesse has taken the following steps here:

1. The IT labor market is possessed by a kind of youth craze. We have systematically included the 50+ age group in our recruiting campaigns, and that hasn't done us any harm—quite the opposite. People who have already passed through a few IT market hypes are especially good at telling the difference between real trends and short-term marketing campaigns.
2. We put the programming and implementation of our IT systems into the hands of an external service provider in the form of an e-government competence center that not only provides human resources but is responsible for implementing the systems in line with the architecture. This model has been so successful that we want to spin it off into operations as well.
3. We have taken some initial steps toward out-tasking in basic systems. For example, we stopped buying storage systems and took out a contract for managed service on demand. We tell the provider what storage and service levels we need and they ensure that those services are made available but charge us by actual consumption. We are planning to extend the model to other infrastructures in the future.

Last but not least, another option is cooperation across state borders. We can reduce our demand for human resources significantly if we standardize our systems more and vertically integrate the structures in our computer centers. Today, every German state operates all its systems independently—for tax, police, the budget, administration, etc. There is really no sensible reason not to consolidate operations into competence centers; so, for example, two states would focus on tax systems, two others on police systems, others again on resource management systems. This kind of vertical integration offers public-sector IT four strategic opportunities:

- Functional specialization and concentration will improve the quality of systems overall, as well as the quality of systems operation.
- Due to this concentration process, public-sector IT will be standardized effectively—nothing drives standardization better than a jointly used system.
- Consolidation will create better systems utilization in all vertically integrated service centers and will therefore increase cost efficiency.
- Ultimately, fewer IT specialists will be needed for development and support, which in turn addresses the staffing problem I mentioned earlier.

I am aware that this strategy is easy to define and hard to implement, because it requires a high level of cooperation from all concerned. However, I consider the specialist problem to be so serious and obvious that these issues have to be discussed; there is no alternative. To my mind, the process can only be successful if the political sphere demands it and if it is managed across all agencies and levels.

Germany has launched an important program here, in the form of Deutschland-Online, a federal initiative that can help to drive the

process of consolidation and vertical integration. This forum has created a political space in which shared projects can be coordinated and set up in a constitutionally federal state.

McKinsey: *All of our clients are confronted with a plethora of legacy systems. When you address them, where should you start?*

Harald Lemke: I've been working in IT for nearly 25 years now, and for all of that time we have been trying to solve the problem of legacy systems. I don't think these systems are a problem per se. In many cases, there is no practical alternative to evolutionary development, because these systems contain an undocumented treasure of expert knowledge that can't be extracted from them in acceptable time and at acceptable cost. Take our tax systems, for example: Germany has very complex tax laws, which develop further with every day that passes, with new laws, ordinances, and court rulings. All this knowledge is implemented in legacy systems. Several attempts to replace this heritage with modern systems have proved fruitless. Today, we are on a path of evolutionary development and integration which I think is much more promising.

Our tax agency has just learned how to marry stable legacy systems with modern Internet technology where it makes sense to do so. Integration and SOA are the keys to a winning strategy here. However, legacy systems that cement obsolete organizational structures are a special case. This problem often crops up in resource management. Shared service centers almost always require shared information systems, which is why IT consolidation often precedes reorganization. There's no one-size-fits-all solution here, although there is one almost universal rule: IT consolidation starts with IT organization. Overcoming technical barriers mostly requires overarching IT management that coordinates all the different IT departments or organizes the responsibility for cross-agency support systems centrally.

If you consolidate legacy systems by this cross-agency strategy, however, you need to be prepared for a hot debate on functional standardization. The old tangled web of IT legacy systems generally established a variety of processes and standards, and many of the people involved can't really imagine working any other way. An added difficulty in the public sector is that a lot of processes and standards are defined by laws and ordinances, so that a modernization process also requires new legislation. This is further evidence of how important it is to embed IT strategy at the political level.

McKinsey: *So, should governments introduce CIOs or strengthen their roles?*

Harald Lemke: That depends on their political environment. If one of the primary objectives of your government is to undertake sweeping administrative reforms, creating transparency across levels and agencies and designing its administrative processes more efficiently using IT, and prepared to acknowledge this goal openly and pursue it long term, then—yes, absolutely. Because one principle applies without exception in the public sector: a CIO needs a CEO who needs a CIO. Without a political mandate and the accompanying

sponsorship, a CIO will not be able to push successfully against the centrifugal forces of a large organization, and will very probably end up a lame duck.

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