



Privacy: Basing service on respect

Executive Summary – Privacy is an important issue with consumers because the electronic profiles, particularly those built by aggregating data from multiple sources, can have real effects on credit, employment, preferential treatment and personal safety. Personal data needs to be accurate, secure and collected and shared with a sensitivity to individual preferences. Privacy specification and protections, including “de-identification” of data, should be built into information systems from the ground up.

Peter Andrews To begin, could you tell me a bit about who you are, what you do, what your responsibilities are?

Steve Adler My name is Steven B. Adler, and I am a Principal in IBM's Security and Privacy Services organization, specifically I am the worldwide leader of the IBM Global Services Privacy Center of Competence.

Peter Andrews Why, in your opinion, is privacy getting so much attention now, as it relates to information technology (IT)?

Steve Adler For the past 40 years, companies have been collecting information on our purchasing habits. That information has been stored in disparate databases, line-of-business applications, far out of sight of most consumers. Individuals had only an abstract idea of the kind of data collection, retention, processing, and use practices employed by many companies. If you wanted to learn about these practices, the most you could obtain was a credit report that might list all your mistakes, but certainly didn't reveal your transaction history.

Over the past five years, as the Internet has become commercialized and [has] proliferated, people have bought computers and put them into their homes. As consumers shop online, companies can track their every movement through a Web site. But the computer is a two-way communication medium, and the organizational oversight is now being observed by the consumer. So now people know they are

being monitored, are reading about the ways in which they may be monitored, and are reacting against that.

Peter Andrews If technology has raised some of the concerns, can technology be a part of answering them?

Steve Adler It can. Until recently, it was technology itself that guarded our privacy because there were technological limitations that prevented the merging of our data from those line of business applications into some sort of master profile.

Peter Andrews What has changed?

Steve Adler Today, there are new tools being developed that allow that information to be merged, analyzed and mined into powerful profiles that can reveal more about an individual's consumer preferences than they may be aware of themselves. And many organizations want to do that, they want to market to the power of one -- you!

Peter Andrews Could you tell me some of the benefits of this to business?

Steve Adler It goes back to something we have been telling our customers in IBM for years -- a customer-centric data structure (as opposed to line of business) will let you know more about your customer so you can improve service, reduce risk, cross-sell products, link to business partners, etc.

Peter Andrews The consumer often benefits from being known, too. Right?



Steve Adler It depends on the privacy preferences of the individual. Some people thrive on attention and others prefer discretion. The challenge today, and in the future, will be to use technology to allow businesses to tap into these new tools and still preserve individual rights to privacy and choice.

Peter Andrews What are some of the downsides people see to losing privacy in this manner?

Steve Adler People want technology to benefit them, and they won't use technology that they perceive disadvantages them. Today, data mining and personal profiles may be used to offer different service levels dependent on brand loyalty. You may be getting ready to board a plane and be told that the flight is canceled at the last minute. Because your ticket was bought through a corporate purchase agreement, you may have only paid \$200 for your ticket, whereas the family in front of you may have paid \$900. If you are a frequent flyer, you may receive a higher level of service in search of a new flight than the family who is on their only vacation trip for the year. That is an example of how profile technology can disadvantage people in ways many would not consider fair.

Another scenario often mentioned is the bank that reviews your genetic history to evaluate the likelihood that you will live long enough to pay off your mortgage.

Peter Andrews Yes...because they have links into your medical data. There are concerns also with how accurate these cumulative profiles are as well, right? An online bookseller seems to be convinced that I'm a romance novel fan because my wife uses my ID. And that's a mild inaccuracy.

Steve Adler Good scenario. Data accuracy is a concern. Today, it is very hard to get access to the data collected about you, and people do have an interest in making sure that their profile really represents their true interests.

Peter Andrews Let's talk a bit about how technology can facilitate the right level of privacy for individuals. Do you know of any action toward

turning personalization around and making the privacy preferences part of the transaction?

Steve Adler There have been individual efforts on the part of organizations to provide privacy profile pages that allow individuals to prescribe what kinds of e-mail marketing they might want to receive, but there haven't been the kind of systemic solutions we believe are necessary.

We believe that data privacy is about the authorized collection, retention, processing and use of personally identifiable, and contextual, information according to individual preferences.

Peter Andrews How is this facilitated?

Steve Adler This is facilitated by separating personally identifiable information (PII) from contextual data. PII is any kind of information that can be used to identify you. Contextual data is all that which describes you; it is your data legacy, your attributes, your purchase history, medical records, current location, browsing habits, etc. "De-identified" data can't hurt you.

Peter Andrews It's just used for general analysis, not targeted, not individual profiles.

Steve Adler We think that the future of personalization will entail building systemic privacy solutions that reengineer organizational data structures into customer-centric models that allow individuals to specify when, how, and where their PII may be combined with personified, yet "de-identified" contextual data.

In the future, you may be walking down the street talking on your phone, and your cellular service provider is tracking your movements and alerting an ad agency that Nym #4598AZx has just bought a club sandwich, got paid on Friday and is coming up on a clothing store with \$400 in his wallet. But none of those "observers" will know that it is Peter Andrews...unless you let them.

Or, you may wake up and decide you feel like buying a Nym [pseudonym, a portable de-identified credential] from an online catalog and treat yourself to living in the shoes of a celebrity.

Peter Andrews If approached from an architecture level, I presume you can put protective processes and filters in from the start.



Steve Adler Yes, we feel it's important to build these controls in from the ground up. Many of our customers are considering reengineering projects to aggregate their customer data into one central data store and profile structure in order to achieve their privacy goals.

Peter Andrews One thought, which I'd like you to react to, is using intermediaries or even keeping all personal data in the control of the individual. So, if my profile lives encrypted and controlled by me on my hard disk and I gate access to it, respond (automatically or manually) to requests with an intermediary, of course – then updating the form for emerging business needs is easier. Any reactions? (Benefits, of course, are that I can filter, correct, or refuse it depending upon my choice.)

Steve Adler I think contextual profiles will "live" on many organizational systems in different degrees of completeness, and it will be up to individuals to prescribe how they may be combined. That level of marketplace control over individual profiles will require exchangeable key encryption.

Peter Andrews Can you elaborate?

Steve Adler We are not just talking about online data here. These profiles will be collected from all data sources, and there will, no doubt, be data aggregators who work to combine data sources into master profiles and sell them.

Peter Andrews Unrestricted?

Steve Adler Today, yes; tomorrow, we hope not.

Peter Andrews How do we get to a point "tomorrow" when data is aggregated in a way that has the proper restrictions?

Steve Adler A sound architecture is key.

Peter Andrews For "today," what are the main issues businesses should be aware of here?

Steve Adler Data privacy is more than security. Issues here deal with international regulatory compliance, market branding, consumer trust... simply put, successful e-business.

Tek to watch

- Personalization
- Encryption
- Biometrics
- Deep computing
- GPS
- Pervasive computing



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Executive Tek Report is a semimonthly publication intended as a heads-up on emerging technologies and business ideas. All the technological initiatives covered in *Executive Tek Report* have been extensively analyzed using a proprietary IBM methodology. This involves not only rating the technologies based on their functions and maturity, but doing quantitative analysis of the social, user and business factors that are just as important to its ultimate adoption. From these data, the timing and importance of emerging technologies are determined. Barriers to adoption and hidden value are often revealed, and what is learned is viewed within the context of five technical themes that are driving change:

Knowledge Management: capturing a company's collective expertise wherever it resides -- databases on paper, in people's heads -- and distributing it to where it can produce the big payoffs

Pervasive Computing: combining communications technologies and an array of computing devices (including PDAs, laptops, pagers and servers) to allow users continual access to the data, communications and information services

Realtime: "a sense of ultracompressed time and foreshortened horizons, [a result of technology] compressing to zero the time it takes to get and use information, to learn, to make decisions, to initiate action, to deploy resources, to innovate" (Regis McKenna, *Real Time*, Harvard Business School Publishing, 1997.)

Ease-of-Use: using user-centric design to make the experience with IT intuitive, less painful and possibly fun

Deep Computing: using unprecedented processing power, advanced software and sophisticated algorithms to solve complex problems, and derive knowledge from vast amounts of data

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