Cybercrime –

threat, intervention, defence

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Possibilities and challenges of big data

Abstract

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Moshe Rappoport is responsible for analyzing and interpreting emerging trends in technology, business and society, and understanding their interrelationships. In his speech he will deliver a synopsis of IBMs Global Technology Outlook (GTO).

The GTO is a comprehensive analysis that identifies and evaluates significant, disruptive technology trends that will lead to industrychanging products and services over a three- to ten-year period. IBM Research considers the societal and business applications in which these technologies could be used – and the impact that they will have on IBM and the world. The GTO has a history of influencing IBM's business and the Information Technology (IT) industry. In past years it has predicted such emerging trends as virtual server security, optimized systems, pervasive connectivity and the rising importance of data and analytics.

In the last half century there have been three major waves of technology that have defined computing in the enterprise. The advent of the IBM System 360 in the 1960s enabled the systems management of business processes and so-called "back office" computing. The birth of the personal computer in the 1980s ushered in client-server computing. In the 1990s and early 2000s, the commercialization of the Internet fueled the growth of the World Wide Web, revolutionizing culture and helping to create e-business.

Today we have reached a new inflection point and sit on the cusp of a fourth wave. This wave is characterized by the confluence of social, mobile and cloud technologies, the rise of Big Data and the new kinds of analytics needed to create value in this environment. The GTO 2013 focuses on this confluence, which is transforming the way how we deal with the digital world in a significant way. While each technology driver is important when considered individually, this confluence is fueling four "mega-trends" with significant implications:

• **Growing Scale / Lower Barrier of Entry:** A massive expansion in the number of smart devices, sensors, transactions and users of digital technologies is creating huge amounts of structured and unstructured data - while the rise of easy-to-use and affordable programming interfaces is simultaneously lowering the barrier of entry for companies to create applications and services that derive value from this data.

• **Increasing Complexity / Yet More Consumable:** While the volume, variety, velocity, and veracity of data is contributing to the increasing complexity of data management and workloads - creating a greater need for advanced analytics to discover insights - mobile devices have made technology more consumable, creating user demand for interactive tools for visual analytics.

• **Fast Pace:** Change is coming faster than ever - disruptive models for the development and consumption of technology are emerging to penetrate global enterprise ecosystems, resulting in rapid innovation and decreased time-to-value. Open online courses are experiencing exponential growth making education and training more accessible.

• **Contextual Overload:** The proliferation of sensors and devices and the explosive growth in structured and unstructured data are causing information and contextual overload. With the increasing affordability and sophistication of smart devices, new opportunities exist to provide contextually aware and personalized services based on user views, desires, preferences and location, delivered just-in-time.

A new digital era is on the horizon.