

Panel Discussion on Social Networks and Mobility in the Cloud

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ABSTRACT

Social networks, mobility and the cloud represent special and unique opportunities for synergy among several existing and emerging communities that are now often evolving in isolated silos. All three areas hold much promise for the future of computing, and represent significant challenges for large scale data management. As these three areas evolve, their direct influence on significant decisions on each other becomes evident and critical. This panel will bring together a set of renowned researchers who will explore and discuss the synergy and tensions among critical and often intertwined research and application issues that arise in the context of social networks and mobility in a cloud infrastructure setting.

1. INTRODUCTION

Social networks, mobility and the cloud represent special and unique opportunities for synergy among several existing and emerging communities that are now often evolving in isolated silos. All three areas hold much promise for the future of computing, and represent significant challenges for large scale data management. As these three areas evolve, their direct influence on significant decisions on each other becomes evident and critical. In particular, the cloud has evolved as a new infrastructure paradigm that is a favorite for most computing applications, especially with its attractive pay-as-you-go model. This makes it especially attractive for large scale, elastic novel applications. Social networks have exploded in the last few years with diverse and novel large scale needs, connecting diverse communities and demanding ever increasing resources, thus, exploiting the cloud to the maximum degree. Mobility has been an important and significant aspect of many computing applications for a while now. However, the advent of the cloud and social network applications raises many important challenges when confronted with mobility due to its highly dynamic nature. The potential for cross fertilization among these three areas of important research will drive much of the research

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Proceedings of the VLDB Endowment, Vol. 5, No. 12
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in academia, and the products in industry. However, each of these areas also has its own particular demands and needs, which are often at odds with each other. Hence, there is typically much tension between the needs of the applications, i.e., social network and mobility needs, and those of the underlying cloud infrastructure. This often causes controversy when discussing these seemingly diverse topics together. This panel will bring together a set of renowned researchers who will explore and discuss the synergy and tensions among critical and often intertwined research and application issues that arise in the context of social networks and mobility in a cloud infrastructure setting.

2. SAMPLE QUESTIONS

This is a list of sample questions that can be asked to our panelists:

1. Is the title of this panel simply a string of buzz words of hot topics, with the goal of attracting audience, but really there is nothing else that ties them together?
2. Are the current designs of data centers and cloud software driven by commercial needs only, and especially in the context of social networks and mobility? Can we explore alternative approaches with very different outcomes?
3. What about privacy? Is this a show stopper for some critical applications, e.g., mobile social networks?
4. Do we need transactions in the cloud for social and mobile applications?
5. Is the data too big to manage coherently? Maybe we should not even bother and limit ourselves to manageable small bites?
6. Should social and mobile systems really care about the cloud infrastructure? Alternatively, should the cloud infrastructure care about the social and mobile applications?
7. There is a lot of data out there. Should "we" use it in any way we want? From a cloud design point of view? Or for improving the social and mobile user experience and engagement? Is it ethical?
8. Is Map-Reduce paradigm the ultimate computational model, or we need to think in different paradigms?
9. Are we doing this to "just enhance user entertainment experience", or what are the killer applications?

3. PANELISTS

Gustavo Alonso: Professor at the Department of Computer Science of ETH Zurich, Switzerland. He has an engineering degree from the Madrid Technical University and M.S. and Ph.D. degrees in Computer Science from UC Santa Barbara. Before joining ETH, he was a senior researcher at IBM Almaden. He was also for several years the CTO of Zimory GmbH, a start-up company in the cloud computing space. He has served on the VLDB Endowment, the ACM/IEEE Middleware Steering Committee and is the current Chair of ACM EuroSys - the European Chapter of ACM SIGOPS. He has received several awards, including the VLDB 2010 Ten Year Best Paper Award for work on database replication, and the ACM AOSD 2012 Most Influential paper award for work on dynamic program adaptation. His current research interests include system architecture on modern computing hardware, hardware acceleration of data processing operations, and software design for mobile and embedded devices.

Mike Carey: Bren Professor of Information and Computer Sciences at UC Irvine. Prior to rejoining academia in 2008, Carey worked at BEA Systems, Inc. as a chief architect and engineering director for the BEA AquaLogic Data Services Platform team. Prior to BEA, Carey spent a number of years as a Professor at the University of Wisconsin-Madison, at IBM Almaden as a database researcher/manager, and as a Fellow at e-commerce software startup Propel Software. Carey is an ACM Fellow, a member of the National Academy of Engineering, and a recipient of the ACM SIGMOD E. F. Codd Innovations Award. Carey's current research interests are data-intensive computing and scalable data management. He received his BS and MS from CMU and his PhD from Berkeley.

Amr El Abbadi: (Moderator) Professor in the Computer Science Department at the University of California, Santa Barbara. Prof. El Abbadi is an ACM Fellow, and served on the VLDB Endowment. His research focuses on data management and distributed systems, and has recently been in-

vestigating data management in the cloud and information diffusion in social networks. He received his B. Eng. in Computer Science from Alexandria University, Egypt, and received his Ph.D. in Computer Science from Cornell University.

Mohamed Mokbel: (Moderator) Associate professor in the Department of Computer Science and Engineering, University of Minnesota. His research focuses on database support for location-based services, mobile applications, and social networks. His research work has been recognized by three best paper awards at IEEE MASS 2008, MDM 2009, and SSTD 2011. Mohamed is a recipient of the NSF CAREER award 2010. He received his BEng from Alexandria University, and his PhD from Purdue University.

Srinivas Narayanan: Facebook. He manages the engineering team for Facebook Photos and Videos. Facebook Photos is one of the largest rich media sharing services in the world with hundreds of millions of photos shared every day reaching over 900 million users. Before Photos, he helped launch a number of different products at Facebook including Location and Interest Graph. Prior to Facebook, he worked on database systems research at IBM Almaden Research Center and on enterprise software at Tavant Technologies. He has a Masters in Computer Science from the University of Wisconsin, Madison and an undergraduate degree in Computer Science from the Indian Institute of Technology, Madras, India.

Gerhard Weikum: Scientific Director at the Max Planck Institute for Informatics, Saarbruecken, Germany, and adjunct professor at Saarland University. He received his diploma and doctoral degrees from the University of Darmstadt, Germany. Prof Weikum received several awards including the ACM SIGMOD Contributions Award, the Google Focused Research Award, CIDR 2005 Timeless Idea Award, and VLDB 10-Year Award 2002. He is also a Fellow of the German Computer Society, a Member of the German Academy of Science and Engineering, a Member of the Academia Europaea, and an ACM Fellow.