Attribute Based Access Control (ABAC): Recent Advances and Future Directions
A Half-Day Tutorial Proposal for ICISS 2017

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In this half-day tutorial, we will first introduce the basic concepts of access control and take the audience through a brief history of the development of various access control models. In the process, we will highlight some of the shortcomings of existing models, thereby motivating the need for the development of Attribute Based Access Control (ABAC).

The various components of ABAC will next be presented and its relationship with existing models like Discretionary Access Control (DAC), Mandatory Access Control (MAC) and Role Based Access Control (RBAC) will be established. Using illustrative examples, we plan to explain how access control policies are specified in ABAC and access decisions are taken when a resource access request is made by a user.

Finally, we will give an overview of ongoing research in various aspects of ABAC and identify several directions for carrying out further work in this exciting field. Specifically, topics like model standardization, policy mining, security analysis, etc., are being planned to be covered in this tutorial. For the benefit of young researchers and students, pointers will be provided to various online resources as well as list of conferences, workshops and journals where research results in this field are disseminated.

Brief Bio of the Speaker:
Shamik Sural is a professor of the Department of Computer Science and Engineering, IIT Kharagpur, India. He received a Ph.D. degree from Jadavpur University in 2000. He is an associate editor of IEEE Transactions on Services Computing and has served on the program committee of several international conferences. Shamik is a recipient of the Alexander von Humboldt Fellowship for Experienced Researchers. He has published more than one hundred and eighty research papers in reputed international journals and conferences. His research interests include computer security, data mining and multimedia database systems.