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The Role of the Collaboratory in enabling Large-Scale Identity Management for HEP

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As HEP collaborations grow in size (10 years ago, BaBar was 600 scientists; now, both CMS and ATLAS are on the order of 3000 scientists), the collaboratory has become a key factor in allowing identity management (IdM), once confined to individual sites, to scale with the number of members, number of organizations, and the complexity of the science collaborations. Over the past two decades (at least) there has been a great deal of applied research and success in implementing collaboratories, but there has also been a great deal of controversy and variety of implementations in the community. A common implementation, or even a model for contrasting different implementations, does not yet exist. This lack of common approach makes collaboration between existing collaboratories and establishment of new collaboratories a challenge.

The eXtreme Scale Identity Management (XSIM) project is addressing this short-coming by defining a model for IdM that captures existing and future collaboratory implementations. XSIM is first capturing an understanding of the trust relationships in today's scientific collaborations and their resource providers and analyzing how the trade-offs between the policies and trust relationships affect current IdM models. This understanding is being developed through a review of existing literature and one-on-one interviews with dozens of members of the communities involved to fully understand the motivations for the decisions and the lessons learned.

Building on this research, XSIM is proposing a model for identity management that describes the core trust relationships between HEP collaborations and resource providers, and the different choices for those relationships, both in terms of levels and types of trust, and implementation. The model must be sufficiently comprehensive to encompass the reality of the existing IdM architectures; be understandable and useful to future collaboratory developers who are not IdM experts; relate well to efforts in the HEP community; and be accepted by resource providers. Developing such a model will give the community a language in which to express differences in identity management solutions, and easily communicate and understand the impacts of changes in the trust relationships involved with different choices. This in turn will expedite understanding and establishment of new collaborations.

The presentation will provide a summary of the interviews and literature, the resulting analysis, and a model that captures the core trust relationships, especially those relating to IdM.

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