Preserving Privacy in Workflow Delegation Models

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Abstract : The popularity of workflow delegation models and the increasing number of workflow provenance-aware systems motivate the need for finding more strict delegation models. Such models combine different approaches for enhanced security and respecting workflow privacy. Although modern enterprises seek conformance to workflow constraints to ensure correctness of their work, these constraints pose a threat to security, because these constraints can be good seeds for attacking privacy even in secure models. This paper introduces a comprehensive Workflow Delegation Model (WFDM) that utilizes provenance and workflow constraints to prevent malicious delegate from attacking workflow privacy as well as extending the delegation functionalities. In addition, we argue the need for exploiting workflow constraints to improve workflow security models.