# PD3: Policy–based Distributed Data Dissemination

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Modern distributed systems (such as composite web services, cloud solutions) comprise of a number of hosts, which collaborate, interact and share data. One of the main requirements of these systems is policy-based distributed data dissemination (PD3). In the PD3 problem, the data owner wants to share data with a set of hosts. Each host is only authorized to access a subset of data. Data owner can directly interact only with a subset of hosts and relies on these hosts to disseminate data to other hosts. In order to ensure correct delivery of appropriate data to each host, it is necessary that each host shares entire data even though the hosts are only authorized for certain subset of data. We provide a formal description of the problem and propose a data-centric approach to address PD3. The approach enables policy-based secure data dissemination and protects data throughout their lifecycle. It is independent of trusted third parties, does not require source availability and has the ability to operate in unknown environments. The approach is demonstrated through its application to composite web services.