Introduction
We present a new architectural style PACE that facilitates trust management in decentralized applications where peers coordinate with each other. PACE enables a peer to develop meaningful trust relationships with other peers by providing trust-centric guidance regarding the internal composition of a peer. PACE uses message-based asynchronous communication and is a specialization of the C2 architectural style.

Key Benefits
- Provides guidance for integrating trust, communication, and data models within a decentralized peer.
- Induces beneficial properties that help address common threats of decentralization.
- A modular generic architecture that can be modified for use for a wide range of decentralized applications.
- A framework to support application development in the PACE architectural style.
- Plug-in trust, communication, and data components that can be reused across applications.

Example 1: Decentralized Auction
- No centralized controlling authority
- Sellers advertise availability of goods and provide a URL where bids may be placed
- Buyers contact seller directly
- Advertisements are multicast; bids are sent point-to-point
- All peers use the same trust model and policy to facilitate semantic comparison of trust values
- Reverse auctions are also supported where buyers place advertisements and seller contact buyers

![Figure 1. PACE Architecture](image1)

![Figure 2. A Decentralized Auction](image2)
Example 2: COP

The Common Operational Picture is a near real-time picture of a battle scenario shared by multiple independent coalition partners, in this case USA, France, and England. Using PACE allows:

- entities to be added dynamically with less complexity
- a peer to assess confidence in the incoming data by determining trust in other coalition partners

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