

Context and Intent

In

Call Processing

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Technological Change

- Technological change now facing vendors of enterprise PBXs
- Development of IP and wireless technologies for this market is apace
- Large investment
- However sales are not as hoped

Assumption Change

- Connections are made between devices
- Devices are fixed in location
- User identity is their device directory number
- Device functions to a single user's preferences
- Busy is a device state

How & Why People Communicate

- Thomas J. Allen's networks
 - networks of recognized competence
 - success correlated directly with amount of informal interaction
 - negative correlation - literature consultation and success
 - informal - new & tacit knowledge
 - communication and knowledge management are directly key to success

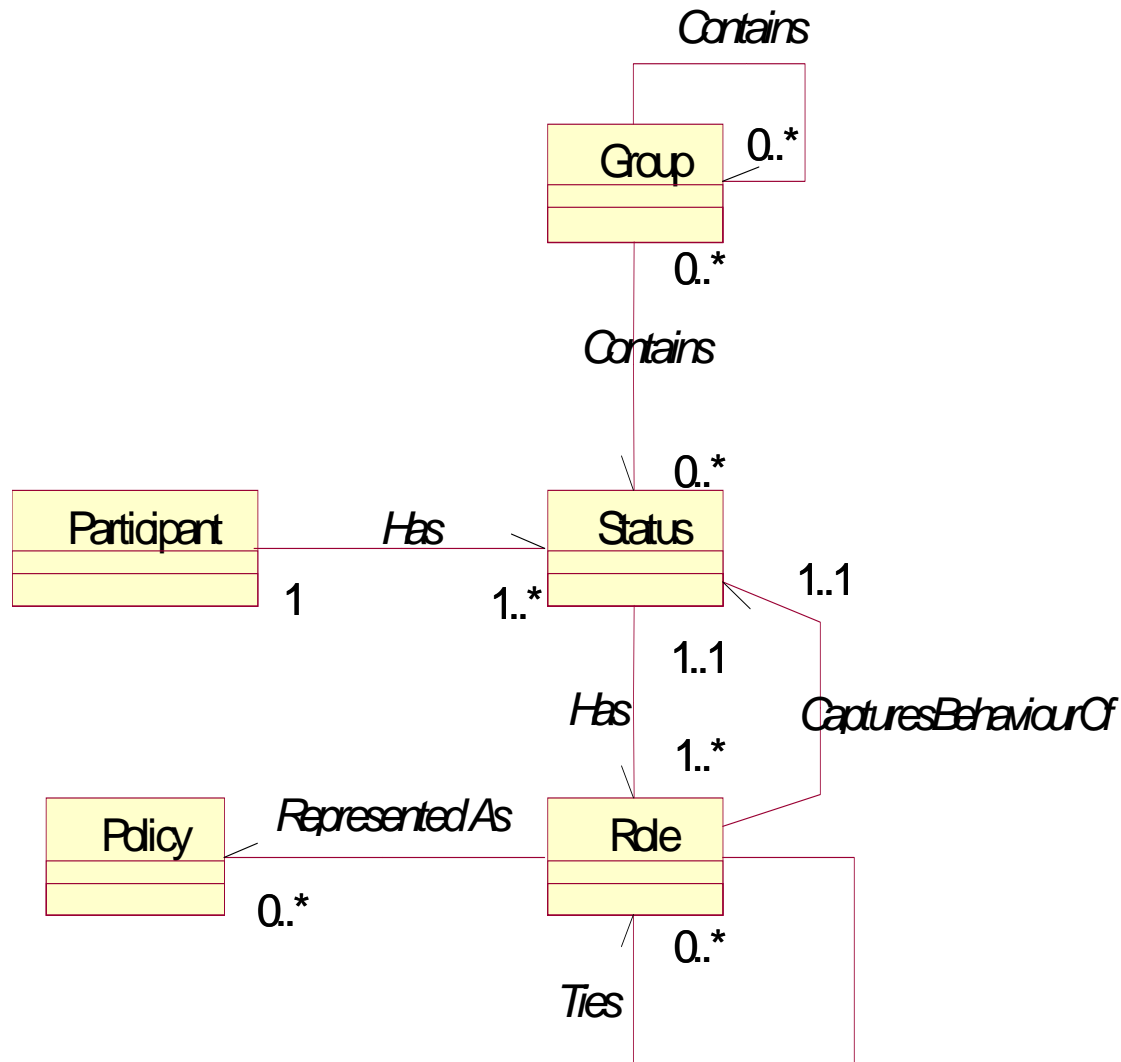
Current Tools

- **Babble** (IBM Erickson, Kellogg, Bradner)
 - social translucence - social affordances
 - visibility & higher performance
 - online, status, involvement with others
- **Hillier**
 - architecture
 - predictive model of interaction from visibility
- Both augment rather than recreate reality

Features - Proactive Availability

- Engender informal interaction by increasing casual visibility
 - voice mail - asynchronous | telephone - synchronous
- Availability - willingness to talk
 - filters to allow visibility but to protect from unwanted interactions
 - multiple locations with multiple expectations of proper operation
 - visible clues from Hillier, Buxton ...
 - organizational norms
 - » stability

Role As Relationship



New Feature Types

- Two new feature types
 - reactive (CoC) and proactive (PoA)
- CoC
 - similar to current feature set but keyed to user current activity and role within organization
- PoA
 - detect and analyze current user state and project availability for discussion

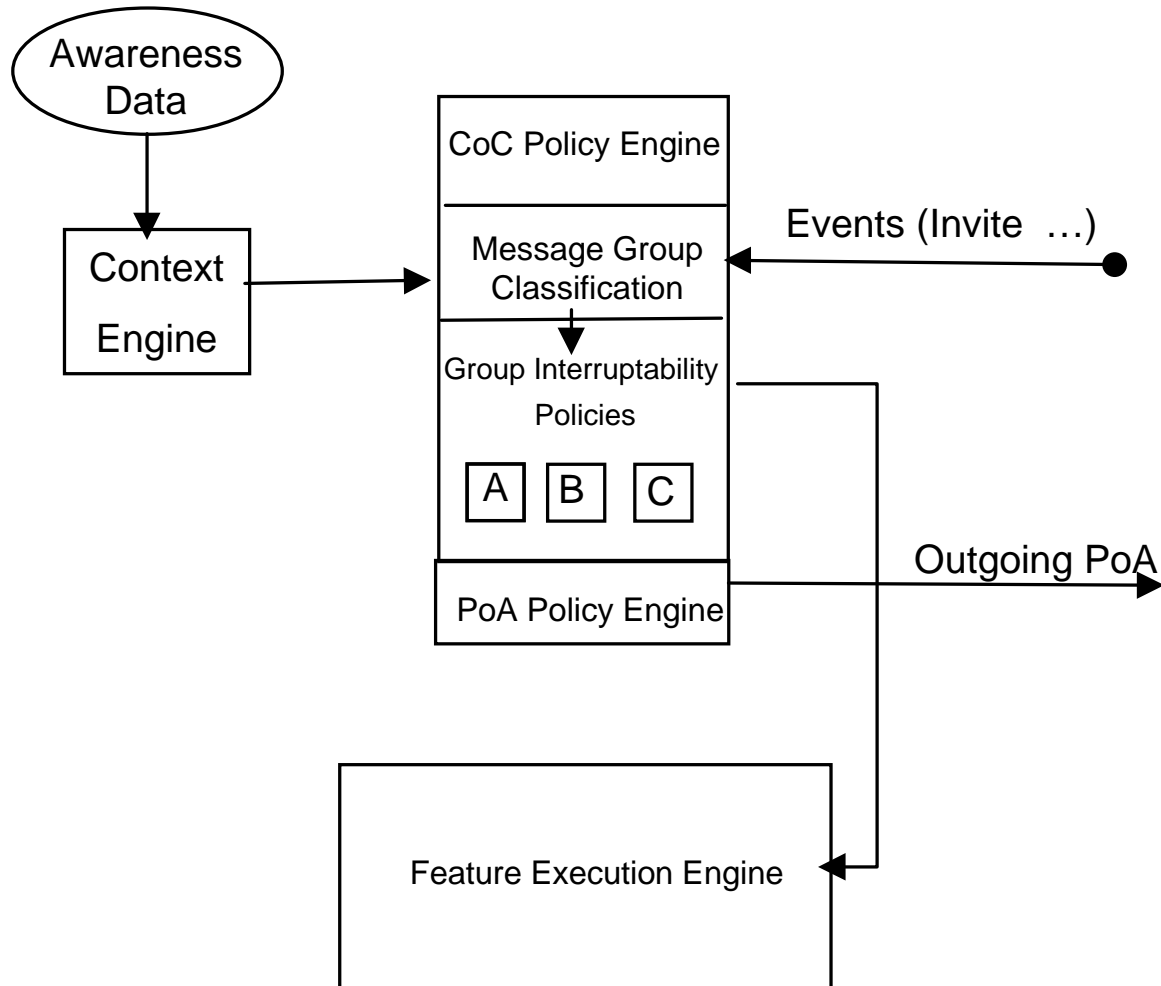
Call Processing & Presence

- Presence & Availability
 - relation to PoA & possible interactions
 - availability determined by state of call processing features (DND example)
 - presence is really hypothetical call processing
 - presence and call processing are specializations of a higher level concept

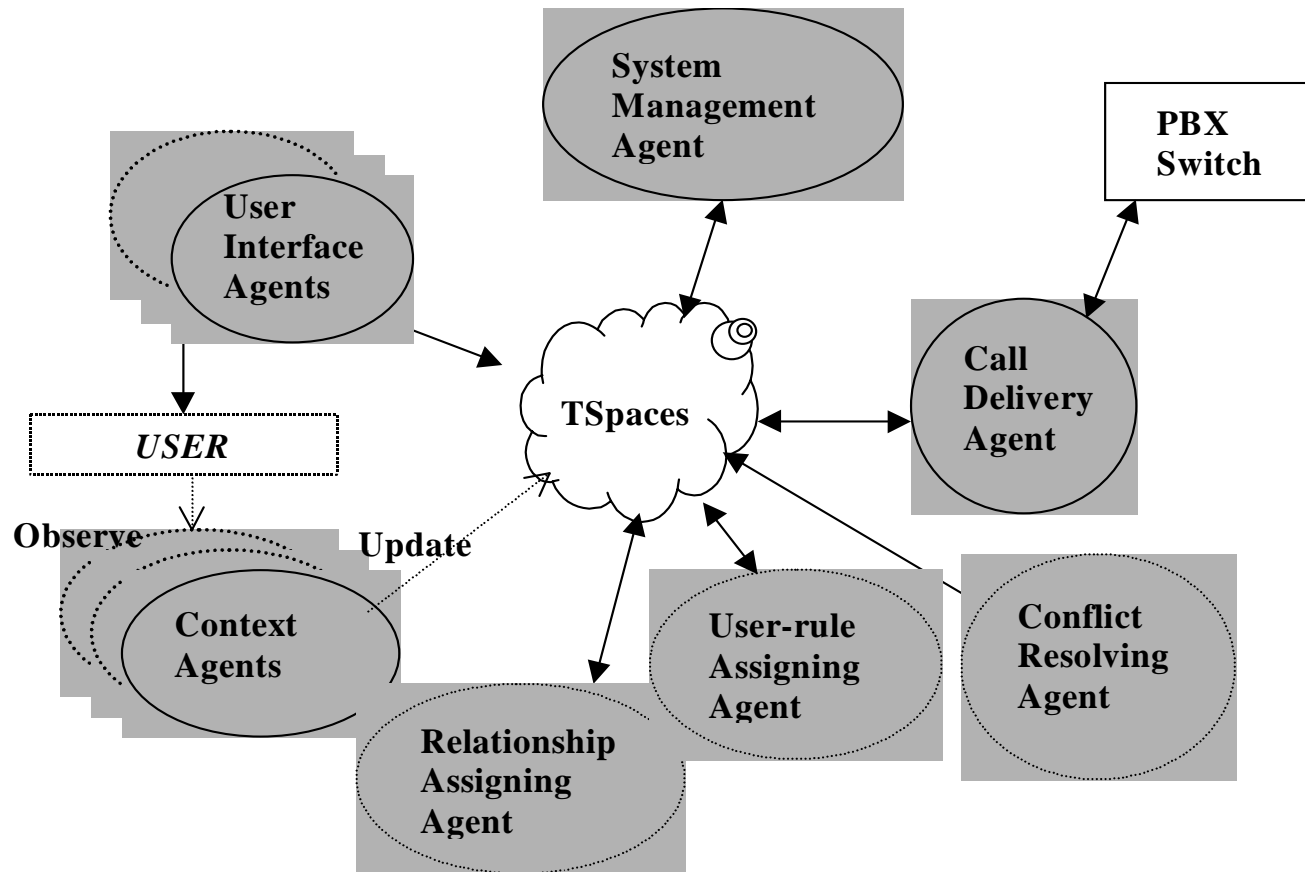
Context & Intent

- Context
 - ‘any information that can characterize the situation of an entity. An entity is a person, place or object that is relevant to the interaction between a user and an application including the user and applications themselves’
 - similarity to role
- Context can indicate Intent (purpose) and therefore proper call handling
 - c.f. Hillier, Babble, Buxton etc
 - who, what, when, where => why

Tri-partite Architecture



Context-Aware Call Processing



FI and Context Rules

- Filtering & Avoidance
- Resolution emphasized over detection
- Sociological resolution (generic rules)
- Rules
 - most specific
 - newest
 - random
 - absolute
 - contextual background - importance and interruptability

Current & Future Work

- Policy Languages
 - human-aware filtering
- Context and User Activity Sensing
- Test and Development System
- Native Call Processing Policy Engine
- Add Hoc Distributed Meeting Tools

Conclusions

- Current feature set does not full exploit possibilities of IP telephony
- New areas of feature operation becoming available
 - informal and ad hoc group services
- Personalization is about group behavior
- Polices offer way forward
 - FI - filtering and resolution