

The Myth of Spontaneous Connection:

A Sociological Look Back at the
42V VEI Experience

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May 2000

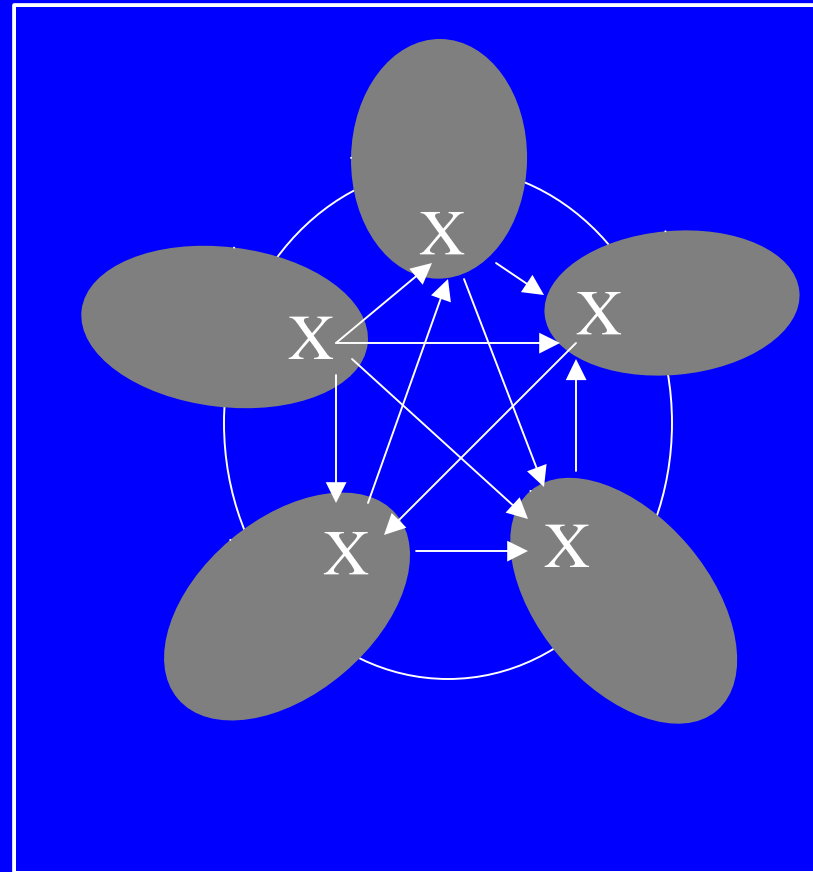
42V Virtual Engineering Initiative—J.Rennecker—July 2000

Virtual Ideals

- ⇒ *“This new workplace will be unrestrained by geography, time, and organizational boundaries...It will be a virtual workplace where productivity, flexibility, and collaboration will reach unprecedented new levels.” (Townsend et al, 1998)*
- ⇒ *“Electronic communication enables partners to link across distance, time, culture, departments, and organizations, thereby creating “anyone/anytime/anywhere” alternatives to the same-time, same-place, functionally centered, in-house forms of organizational experience.” (DeSanctis and Monge, 1999, citing O’Hara-Devereaux and Johannsen, 1994)*

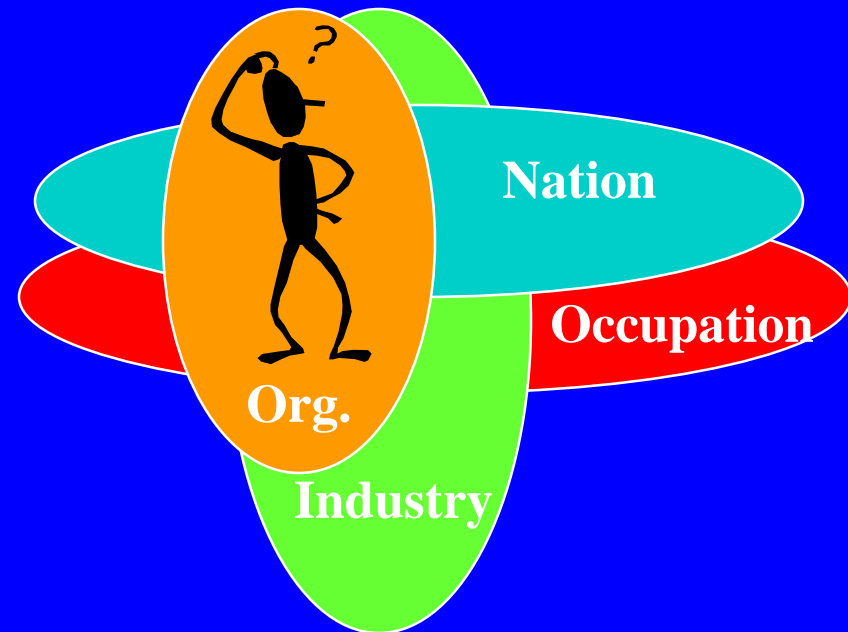
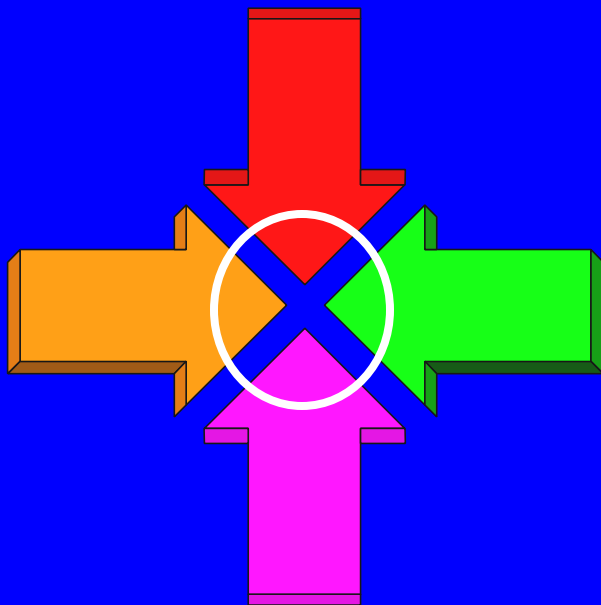
Virtual Teams in the Literature

- History-less
- Infinitely malleable
- Inherently democratic
- Enthusiastically communicative
- Acontextual



Research Question

- *How do the team members' physical and cultural contexts affect their work practices, participation, and communication patterns within a virtual team?*



Overview

Oct'97: Kick-off

Sept'99: Stuttgart

Sept'98:
The Paris Summit



42-Volt “Virtual Engineering” Team

Task: Develop prototype design of “next generation” automotive electrical system “leading the industry toward a new set of standards.”

- *First Year*

- 5 organizations
- 8 sites
- ~15 members
- 2 industries
- 2 countries
- 5 native languages
- 8 time zones

- *Second Year*

- 10 organizations
- up to 20 sites
- ~20 members/meeting
- 3 industries
- 3 countries
- 5 native languages
- 8 time zones

Research methods

❖ *First year*

- Observing:
“shadowing”
- Participating
- Interviewing
- Recording meetings
- Self-reporting
- Document reviewing

❖ *Second year*

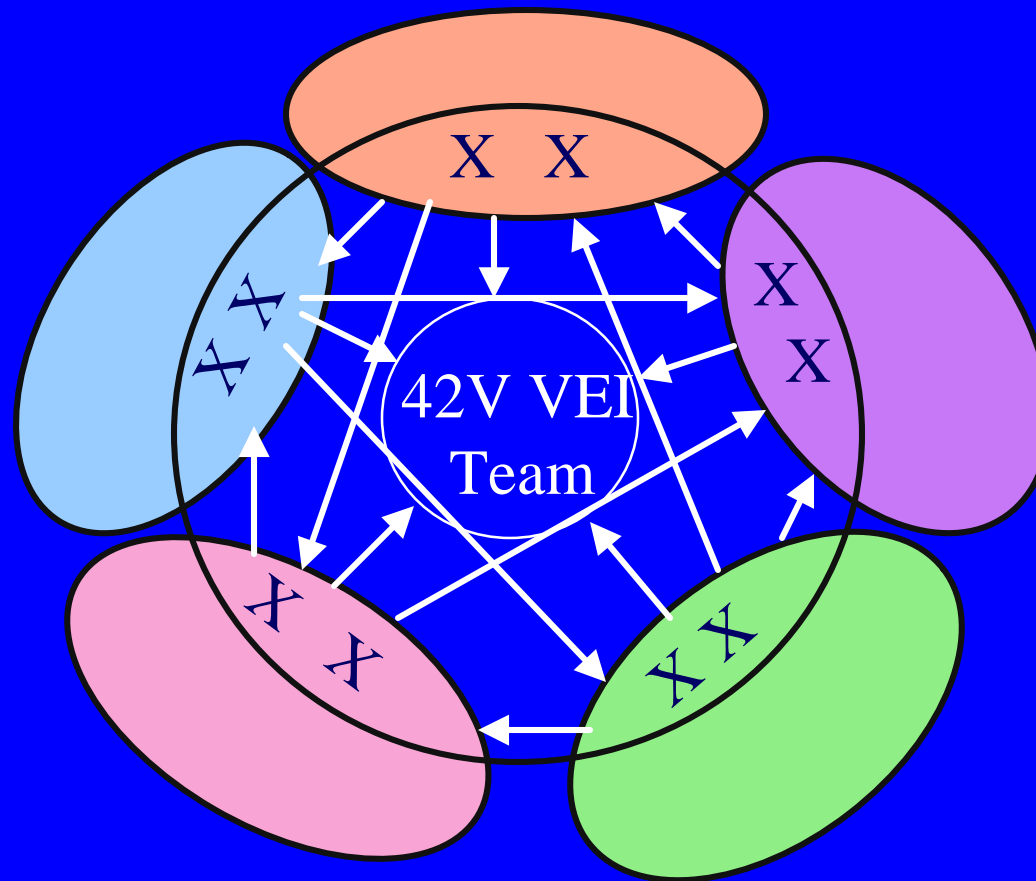
- Observing and recording meetings
- Interviewing
 - Face-to-face
 - Telephone
 - Email
- Group emails

The first year...

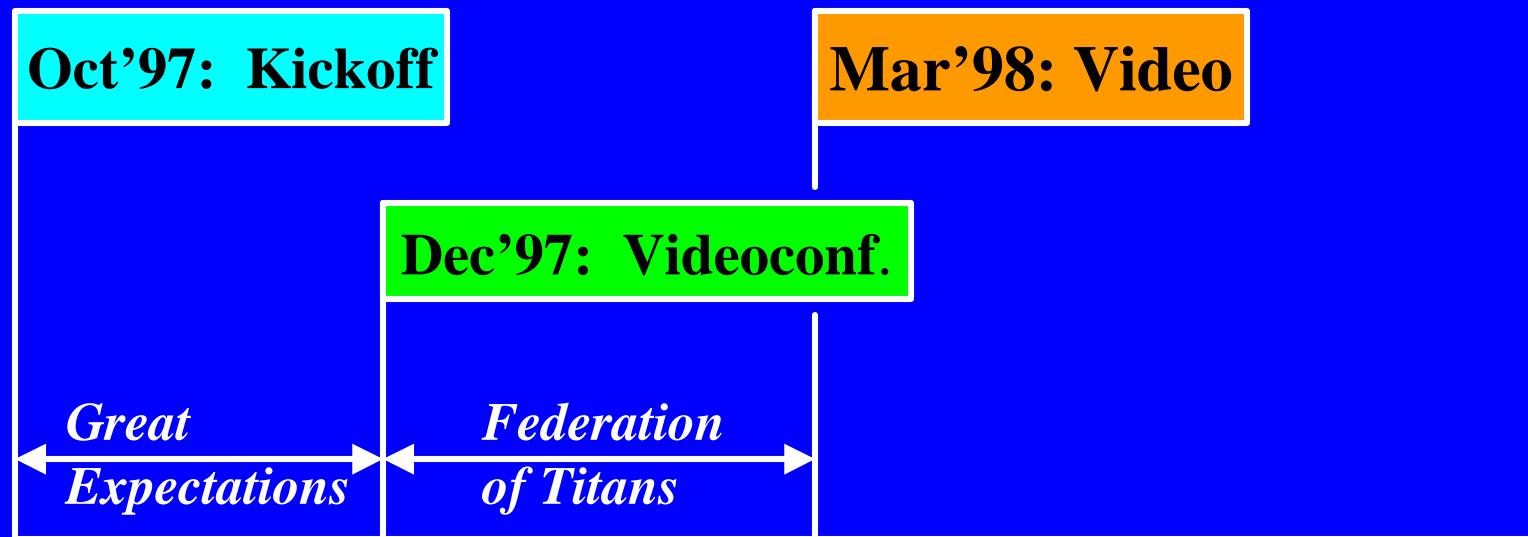
Fall '97: Great Expectations



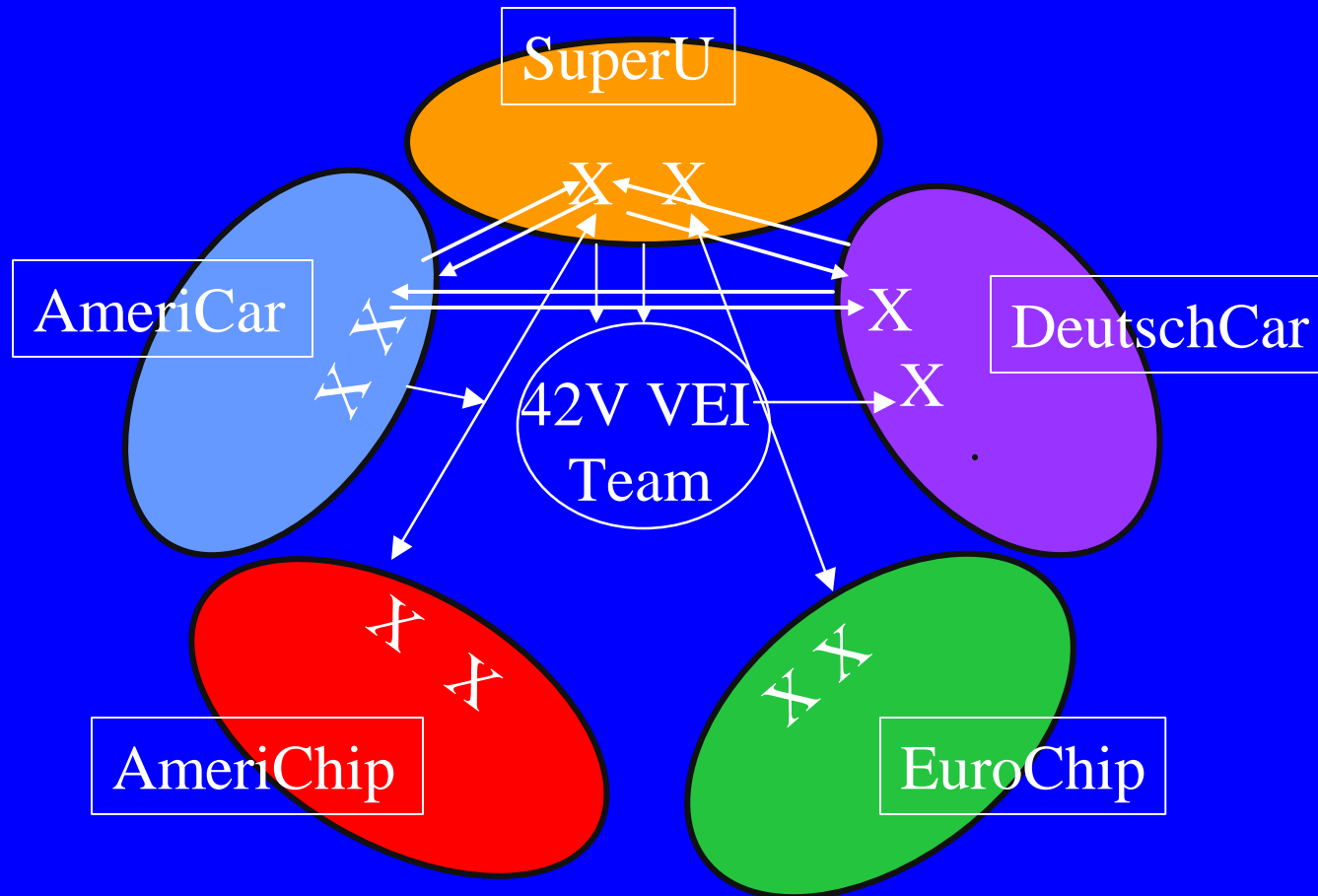
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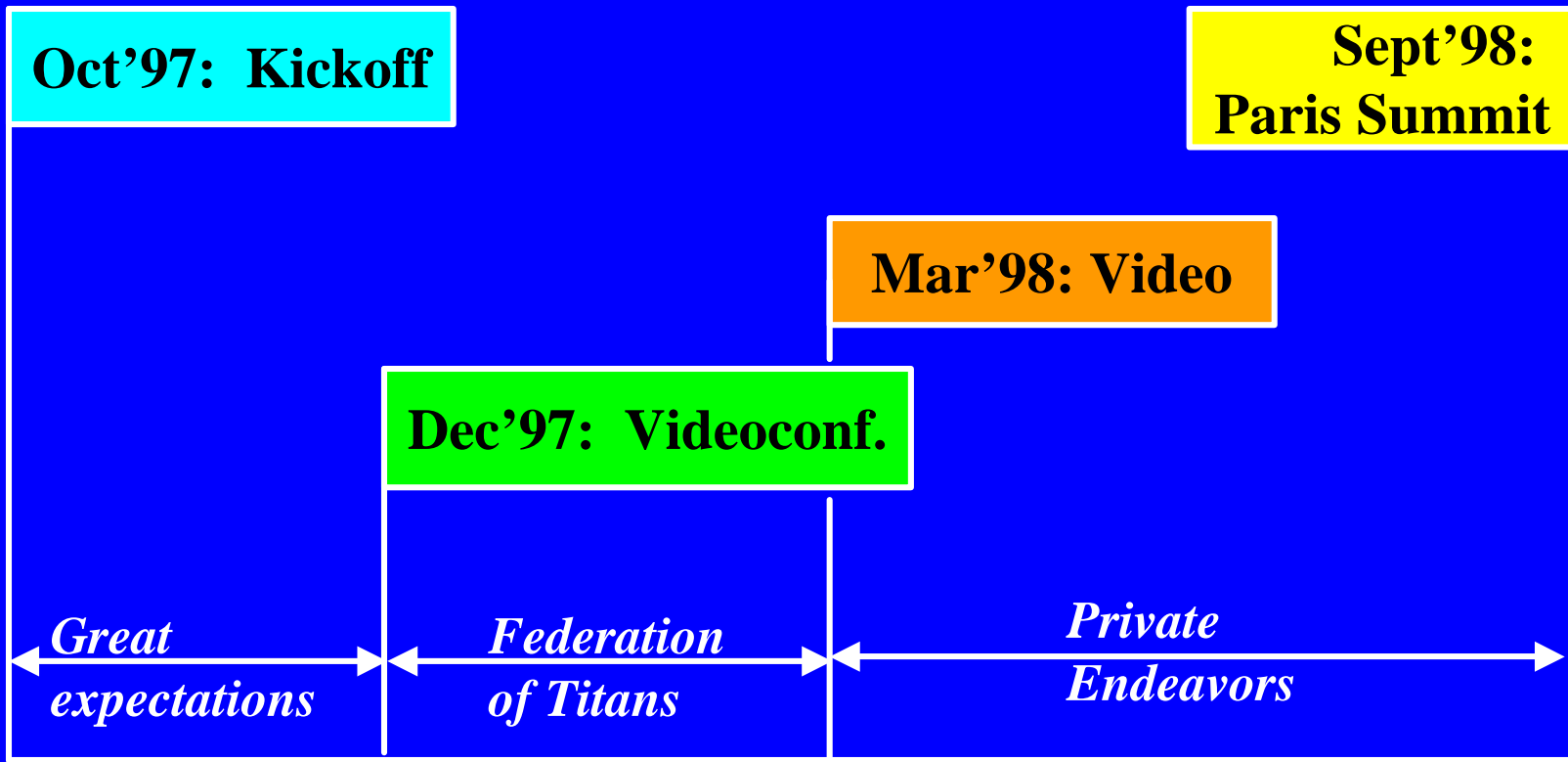
Winter '97-98: Federation of Titans



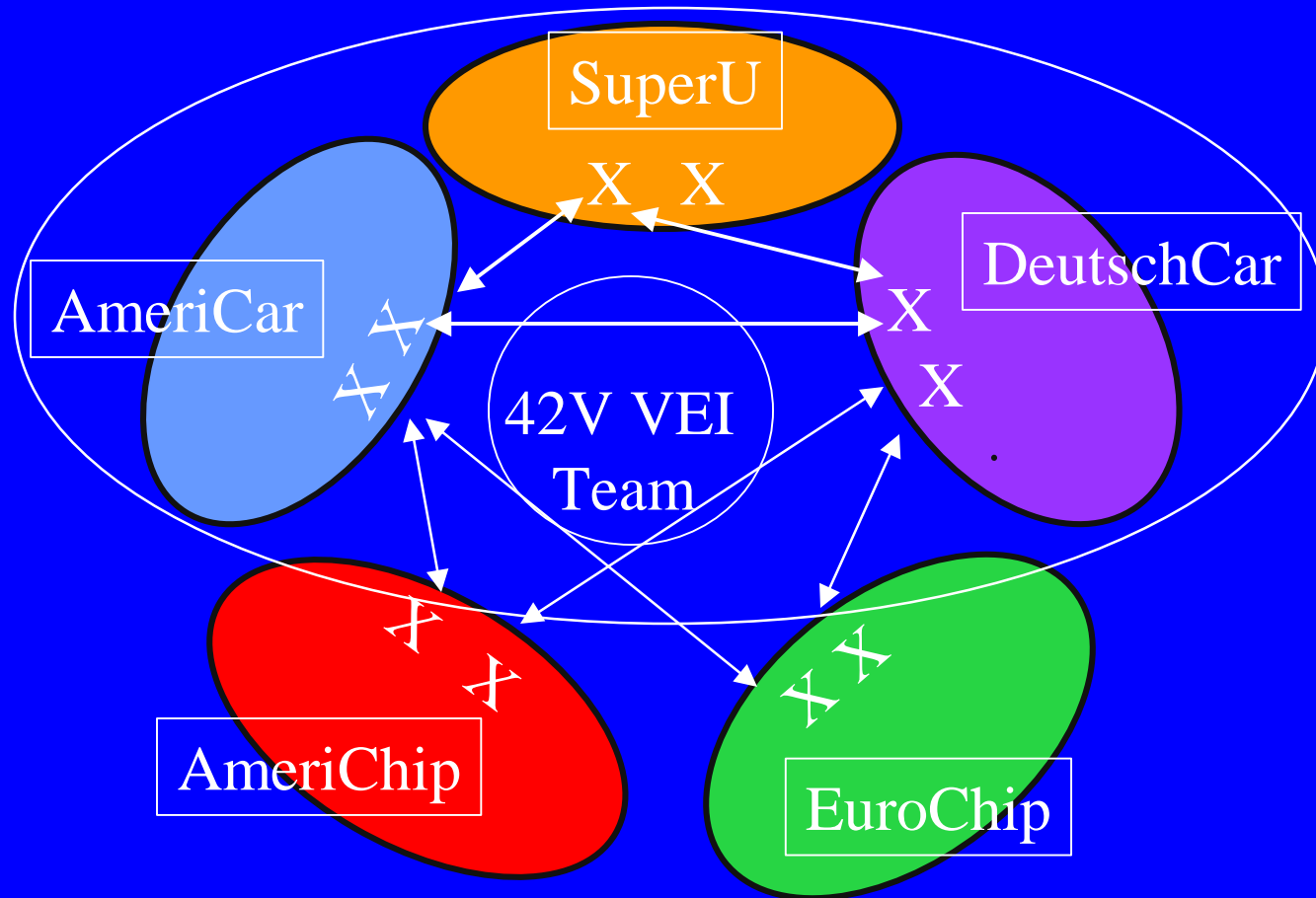
Winter '97-'98: Federation of Titans



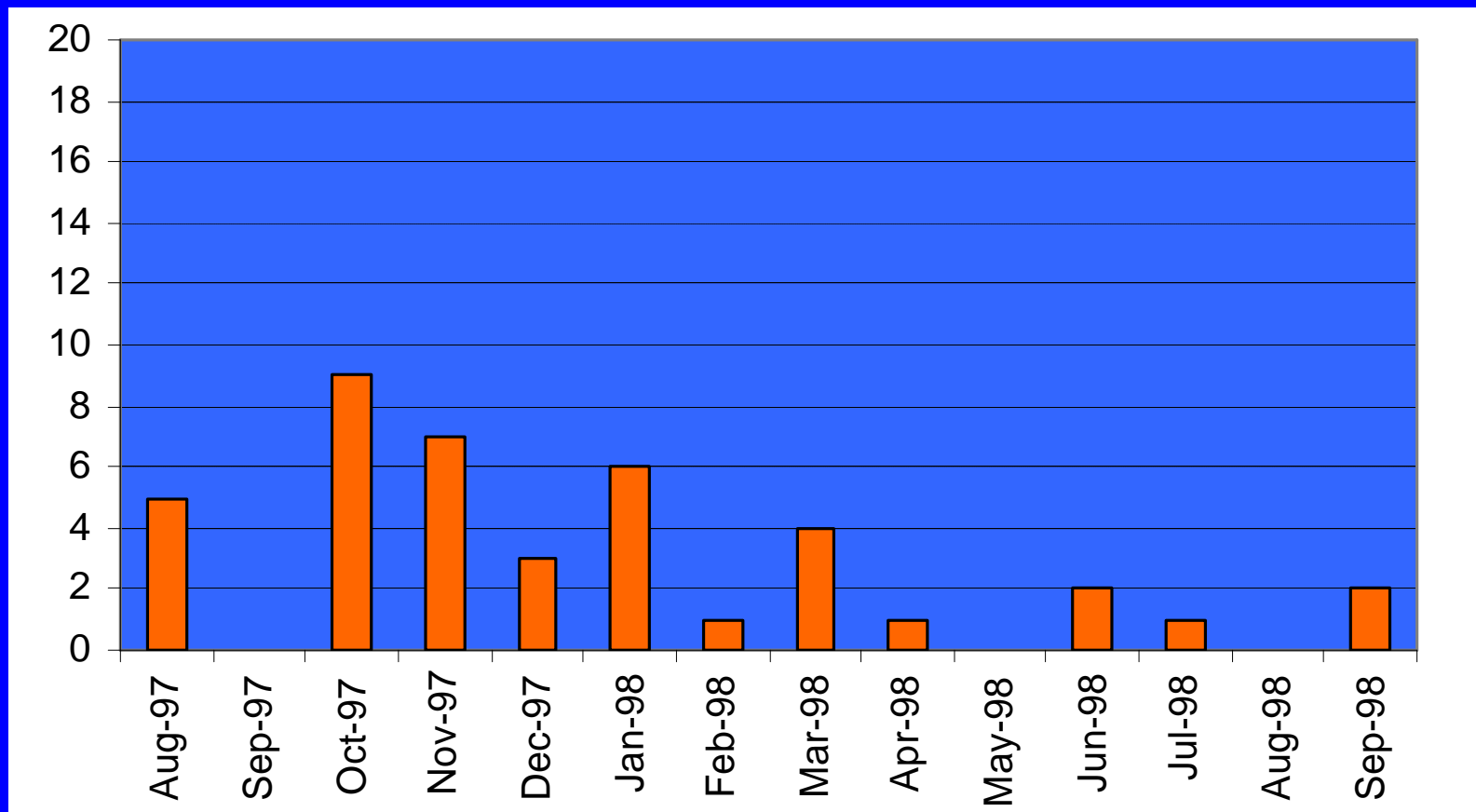
Spring/summer '98: Private Endeavors



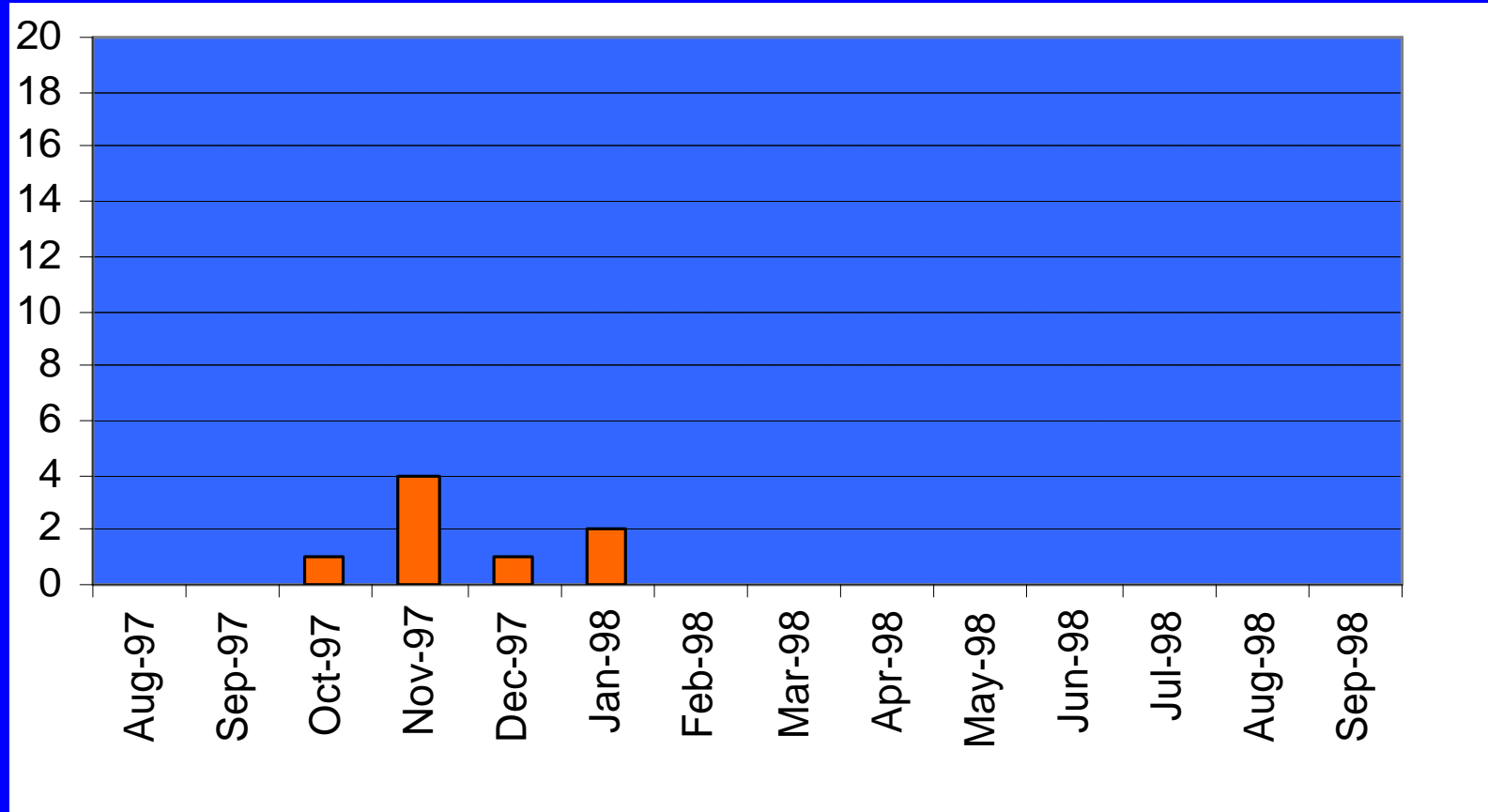
Spring/summer '98: Private Endeavors



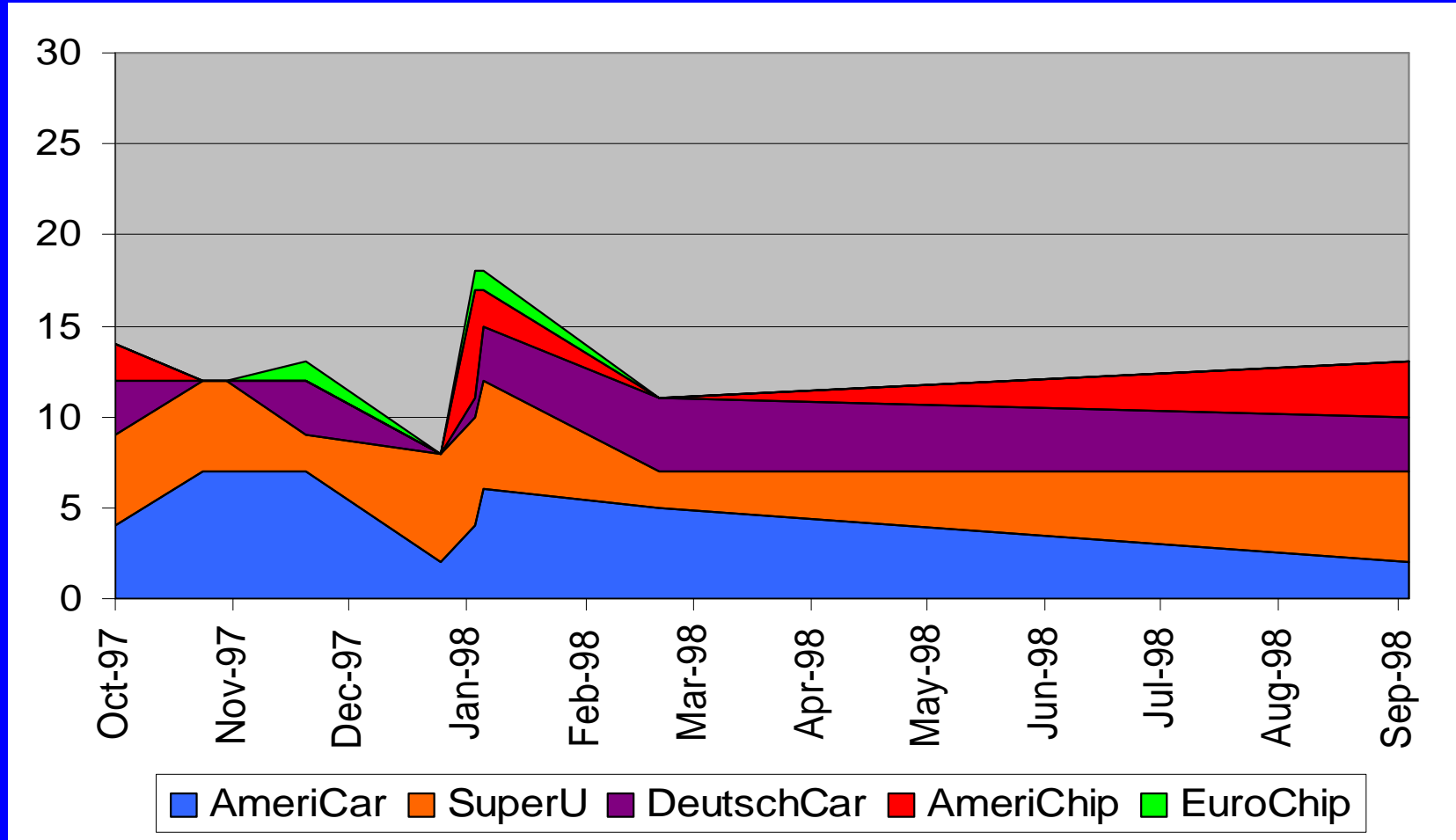
“Document” postings per month--Y1



“Discussion” postings per month--Y1



Meeting Attendance--Y1



Summary: *The first year*

- ❖ Work segmented by organization.
- ❖ Leadership characterized by ambiguity.
- ❖ Team communication limited primarily to formal meetings every 2-3 months.
- ❖ Cross-organizational interaction occurred via established, private channels invisible to most members.
- ❖ Stable membership with high proportion of OEM managers.
- ❖ Supplier participation limited to meeting attendance.

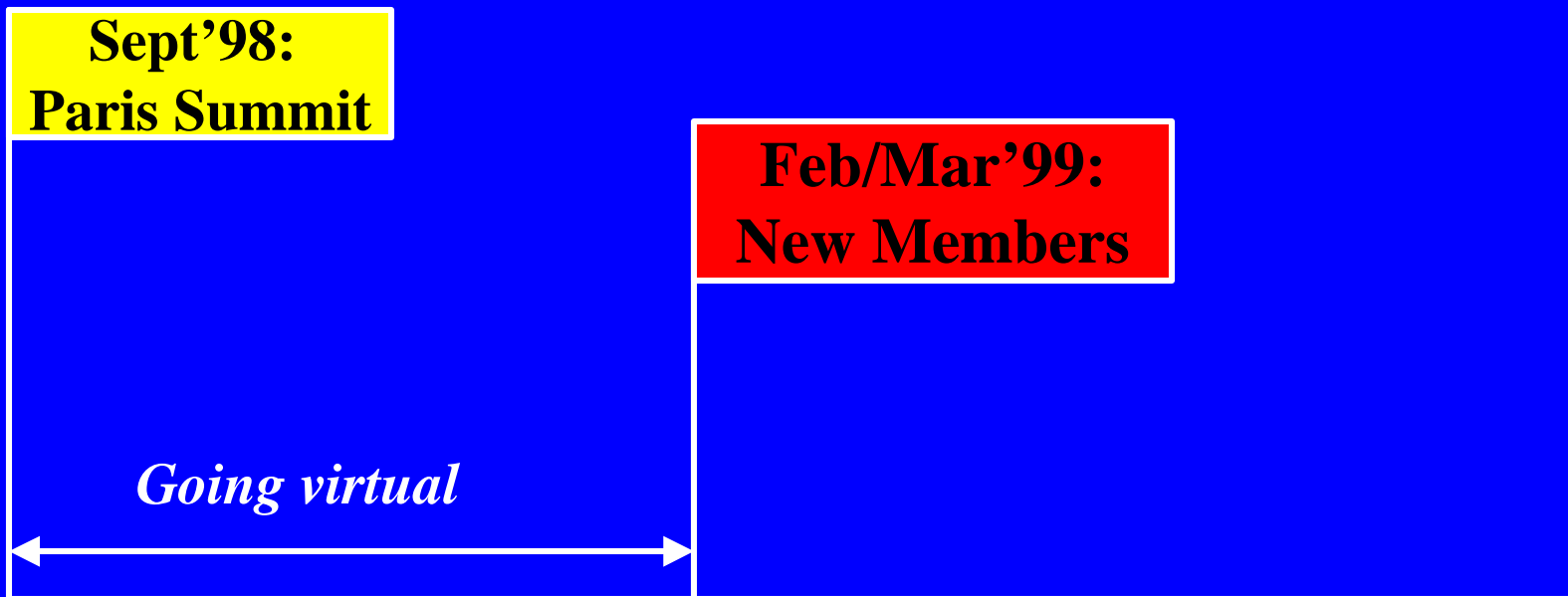
September '98: Paris "Summit"

Agreement to...

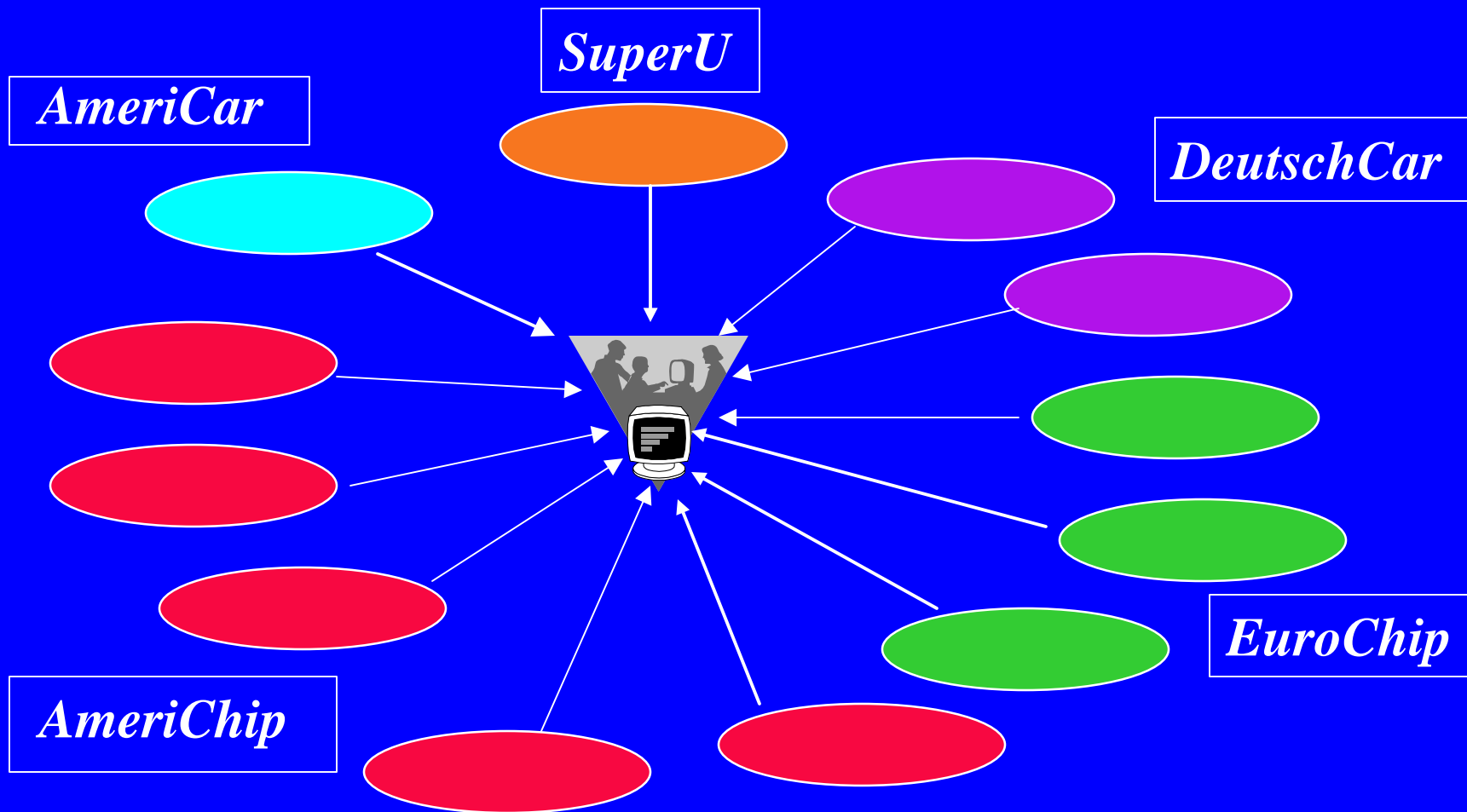
- redefine project to better include suppliers.
- establish both technical and "virtual engineering" goals for coming year.

The second year...

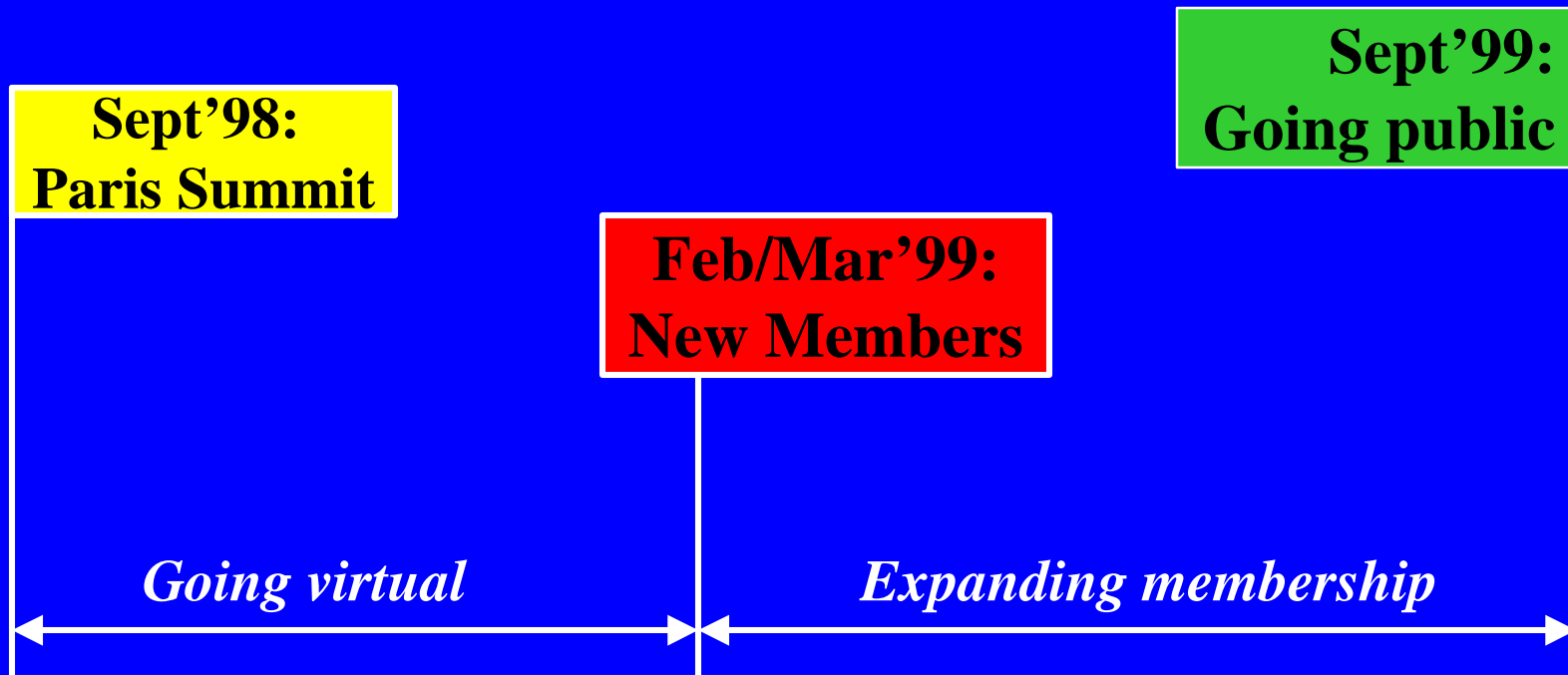
Fall/Winter '98-'99: Going Virtual



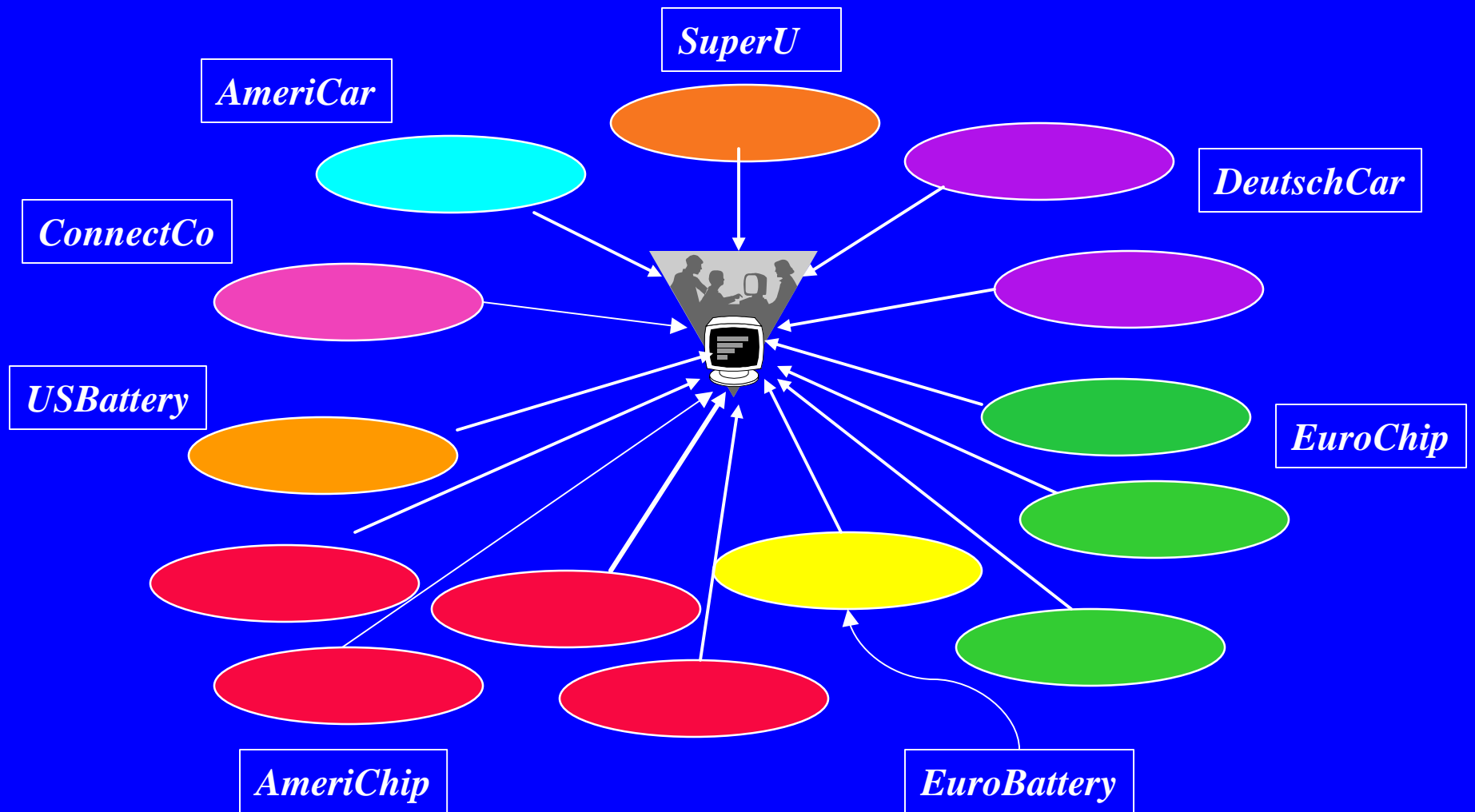
Fall/Winter '98-'99: Going virtual



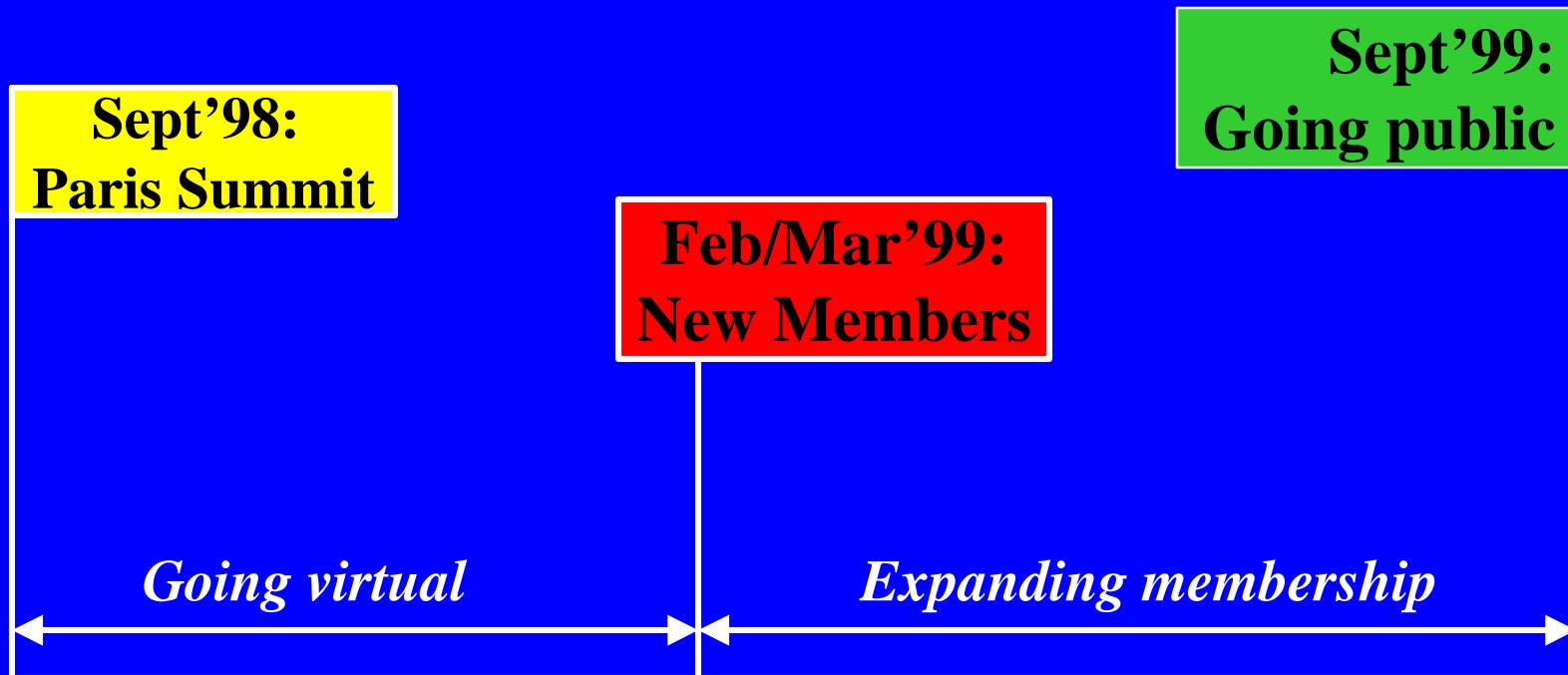
Spring/summer '99: Expanding membership



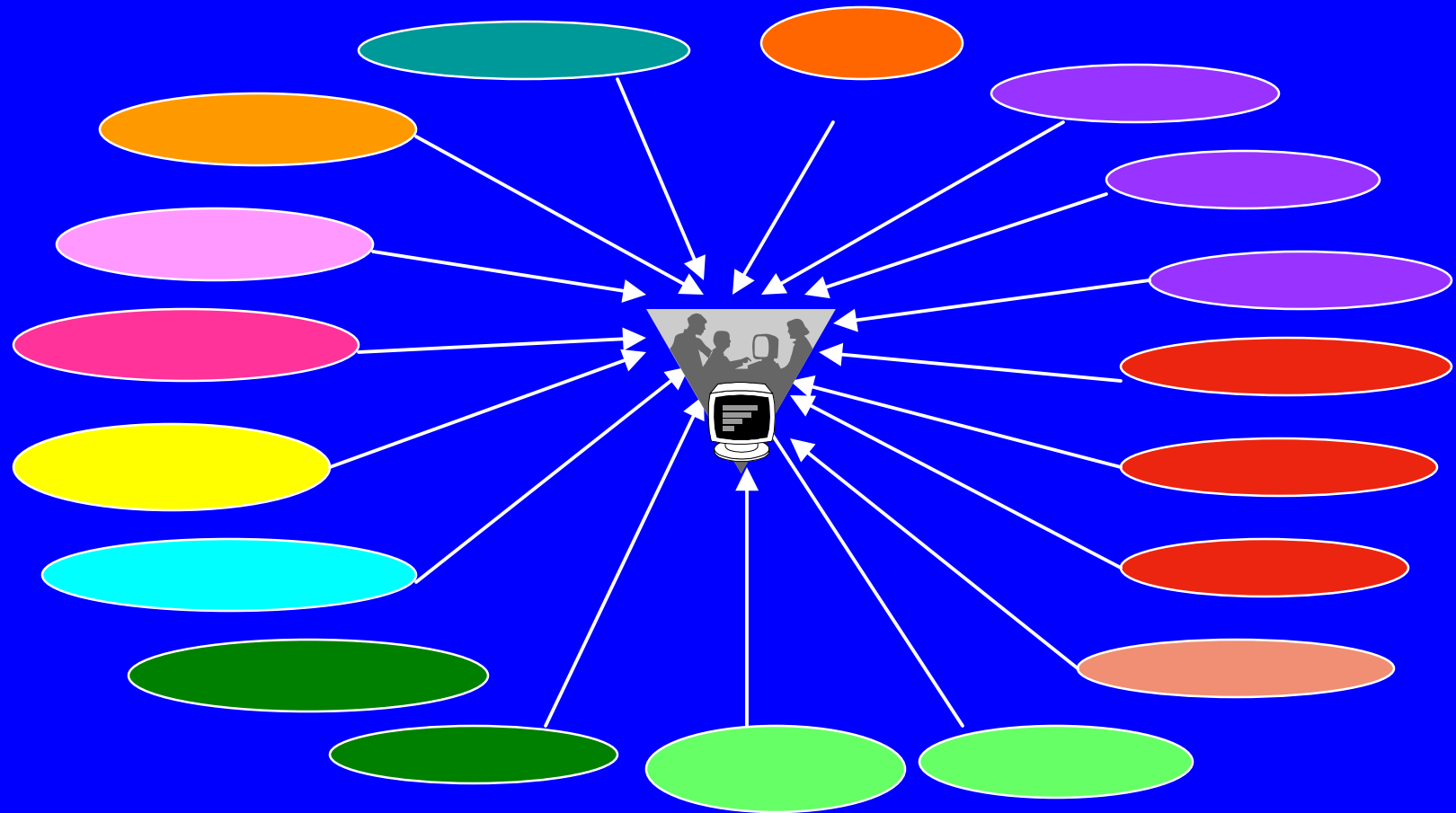
Spring/summer '99: Expanding membership



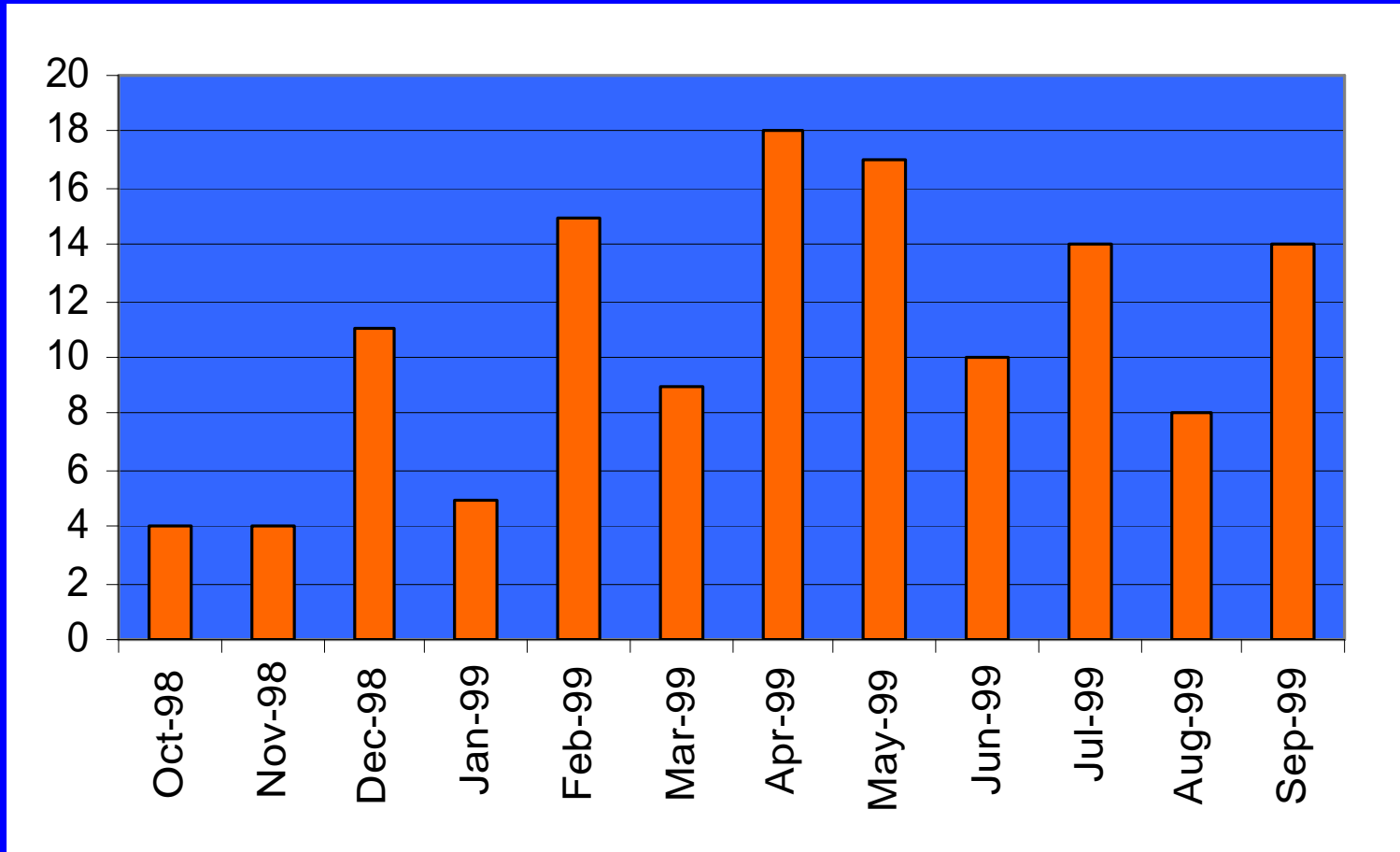
September '99: Going public



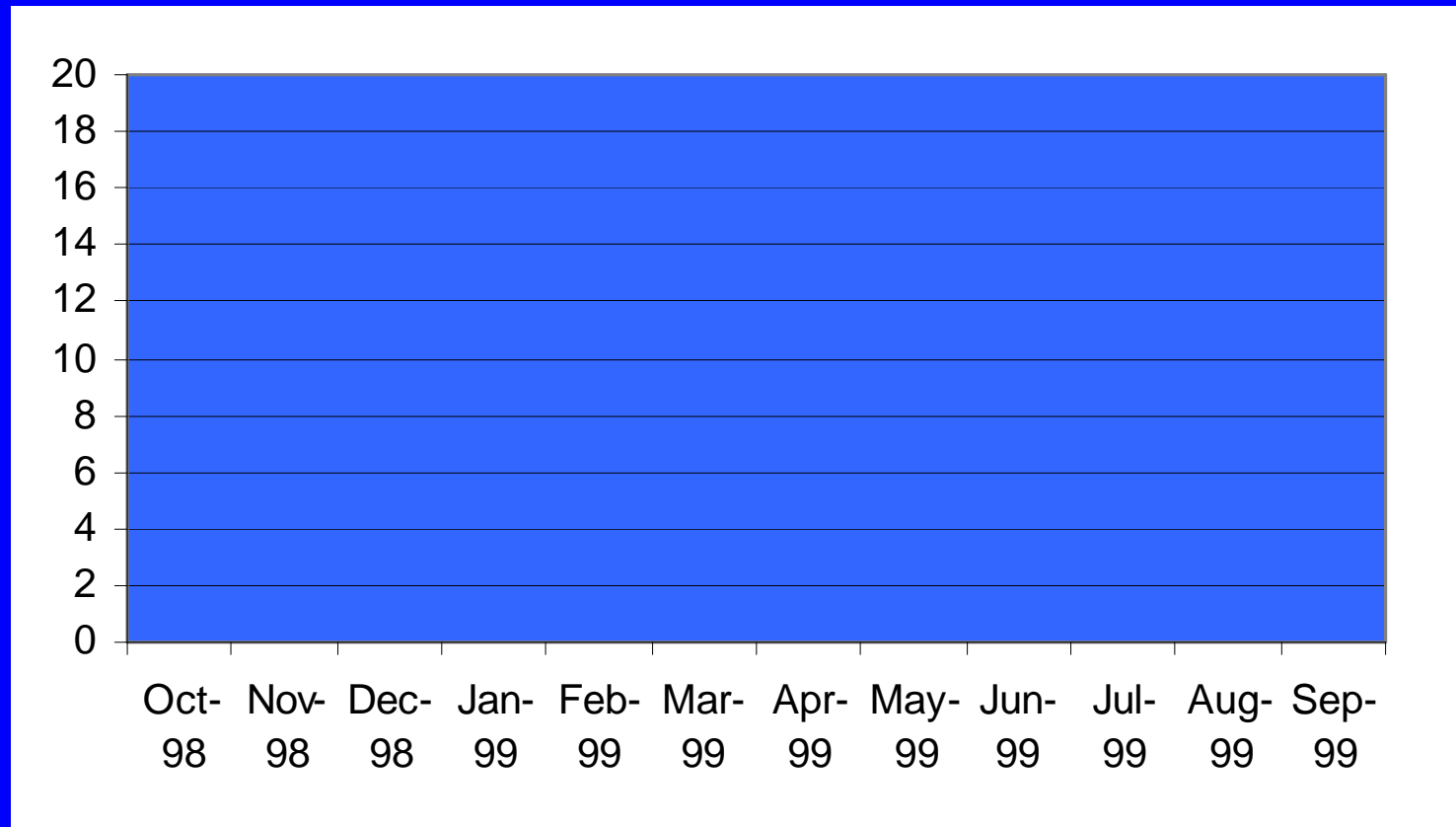
September '99: Going public



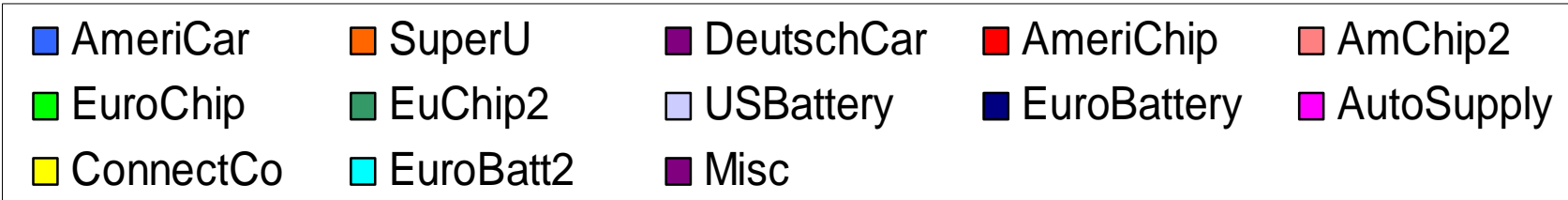
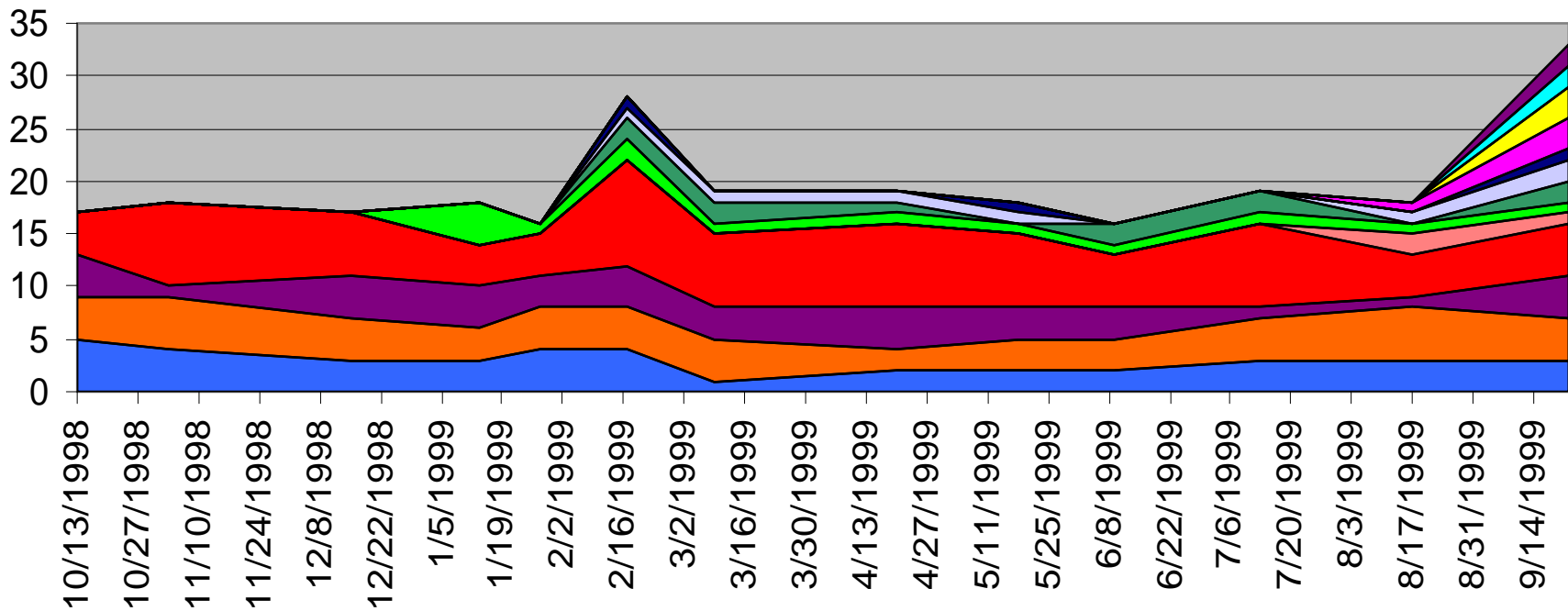
“Document” postings per month--Y2



“Discussion” postings per month--Y2



Meeting Attendance--Y2



Summary: *The second year*

- Some tasks assigned to cross-site subgroups.
- Leadership roles are unambiguous.
- Monthly meetings via NetMeeting supplement face-to-face meetings.
- All meeting documents are posted on the Web.
- Expanded membership accompanied by shifts in *OEM-supplier* and *manager-technical* mix.
- Suppliers take the lead on technology development.

What happened?

Intra-team shifts

- Recognized leader
- Clearly-defined goals
- Different membership size and mix
- Cross-site collaboration
- Computer-conferencing

Extra-team shifts

- Escalating industry interest in 42-volt technology
- Mergers, spin-offs and reorganizations
- Threats to funding

Some things stayed the same...

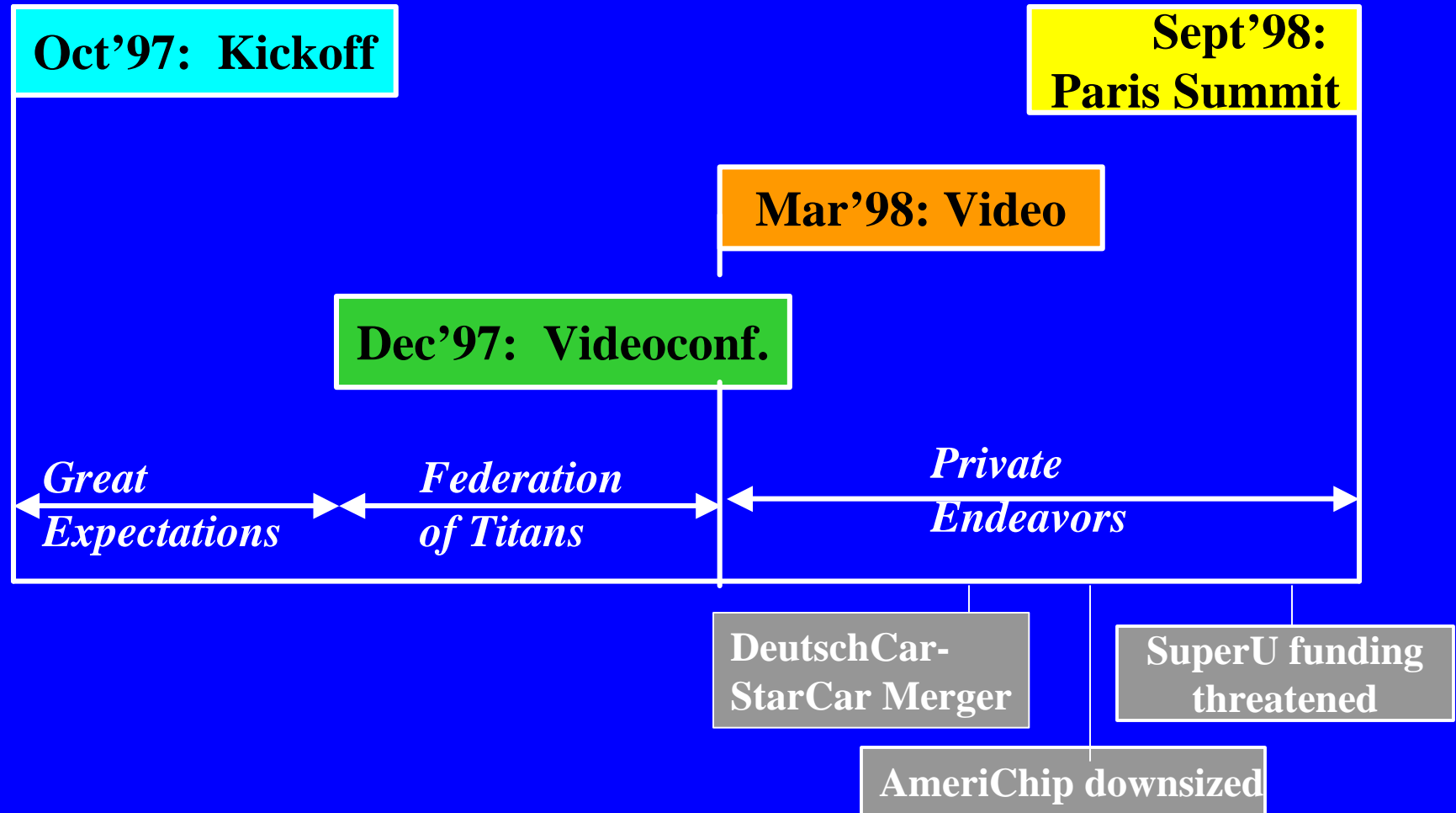
Cultural rules

- Work organization
 - Task segmentation by organization
 - Exceptions: Conference papers; Statemate model
- Communication practices
 - Minimize verbiage.
 - Don't speak out of "place."
 - Don't look stupid.
 - Communicate and collaborate with people you know.
- Social order: Status levels
 - OEMs call the shots.
 - Expertise and reputation rule.

Structure-culture interaction

- ❖ **Structure creates conditions of disparate information access.**
 - Geographic dispersion
 - Organizational distribution
 - Organizational policies, i.e., travel
 - Meeting structures (i.e., member distribution; technology constraints)
- ❖ **Cultural norms for communication and work organization further complicate the situation.**
 - Higher status members have greatest access to information and so are often not aware of information asymmetries.
 - Bias against “unnecessary” communication also limits helpful information exchange
 - Fear of looking “stupid” restricts helpful inquiry.
 - Physical distribution and meeting structures constrained members’ opportunities to become acquainted hindering the development of collaborative relationships.

What happened?: A look beyond the team



Intra-team shifts as artifact of local events

Apparent increases in interactivity and participation were often rooted in responses to local conditions.

- **Organization “face” management:**

“I told them [management] that whether 42-volts was on our radar screen or not, that [an automaker] had invited us, and we couldn’t afford to turn down this kind of an invitation from such an important client.”

- **Corporate reorganization:**

“Everyone’s scrambling for a place to land until the reorganization dust settles, so I’ll take Dean’s place and will perch here until something else shows up.”

Intra-team shifts as artifact of local events

- **Merger:**

“It is okay that Orthmann goes to AmeriCar, but that is not so important. What matters to me is that he is at StarCar [newly merged site] making connections, and when they [new partners] need research, they will call us [instead of another research group within the company], and we will be ready because we have experience with virtual engineering.”

- **Funding:**

“Frankly, if we don’t frame this more as a ‘virtual engineering’ project, we are going to lose our funding.”

Summary

- **Intra-team factors (goals, leader, membership) impact the *qualitative* experience of team participation, i.e.,**
 - Inclusion/exclusion
 - Work coordination
 - Member familiarity
- **Cultural rules (who speaks when and to whom) interact with team and meeting structures to influence interaction patterns and information flow.**
- **Extra-team events and conditions determine participation and membership patterns.**
 - Organizational and/or personal “face”
 - Financial pressure
 - Performance appraisal criteria

Implications

- Structural changes *can* influence information flow and member relationships.
- Intra-team interventions to facilitate teamwork need to be congruent with the underlying cultural rules.
- Factors affecting participation in the team are likely to be either “strategic” or matters of “face” and unlikely to be revealed to the team.
- Intra-team changes are unlikely to have much effect on member involvement (some exceptions with respect to the goal).

Recommendations:

Counter structure...

- Maximize use of “public” communication channels. Consider “cc:” to group email list just to keep members apprised of project activity.
- Assign tasks to cross-organizational subgroups.
- All communication media both enhance and constrain information exchange—use a mix of media to facilitate different participant configurations to counter information asymmetries and increase member familiarity.
- Cross-organizational site visits facilitate information exchange that will not likely occur in technology-mediated meetings.
- Share major calendar information several weeks in advance (vacations/holidays; obligations to other projects; etc.)

Recommendations:

...but be congruent with culture.

- Solicit input, offline if necessary, from lower status/non-expert members because they are unlikely to offer it.
- Use meetings to maximize breadth of members' familiarity with one another (the foundation for collaboration), e.g.,
 - Bring a new person to each face-to-face meeting until each team member has attended at least one.
 - Share the role of site “spokesperson” during technology-mediated meetings.
 - Have each person introduce him/herself so people at least hear one another's voices.
- Develop an inventory of team member expertise to optimize use of in-team resources and facilitate positive perceptions among members, i.e., consider posting CV's or listings of members' roles in former projects.

Food for thought...

One size does not fit all: Virtual work practices will reflect the larger context within which people work and so will differ from one virtual team to another depending on the membership and current conditions.

Geographic and organizational dispersion often amplify pre-existing dynamics.

Neither “structure” nor “culture” alone are sufficient to explain team performance—one must consider both, and in the context of current conditions. Understanding virtual team dynamics requires looking beyond the team boundary.

Ultimately, virtual team participants are first and foremost *organizational* members. When participation is erratic, assume organizational issues are at play.

Things are often not what they seem.