Survey Says...

- Session control protocol survey distributed on November 11
- 7 system descriptions were received
  - AVCCP -- Kevin Lew & Janey Hoe (MIT)
  - CCCP -- Mark Handley, Ian Wakeman et al (UCL)
  - EXPANSE -- Howard Bussey & Steven Minzer (Bellcore)
  - GCC -- Joerg Ott & Carsten Borman (from knowledge of ITU efforts)
  - SRI -- Ruth Lang & Thane Frivold (SRI)
  - Telescope -- Joerg Ott (Tech U. of Berlin) & Carsten Borman (U. of Bremen)
  - Touring Machine -- R. C. Sekar & Brian Coan (Bellcore)
- Survey responses are still welcome
- Survey responses available from:
  - ftp://venera.isi.edu/confctrl/surveys
  - ftp://ws11.std.sri.com/pub/confctrl/surveys

Survey Goals

- Identify others actively working on session control issues
- Highlight protocol commonalities and differences
- Identify range of session description elements in use
- Provide working set of functionality that an MMUSIC session protocol should encompass
- Serve as springboard for functional requirements documents

Points of Comparison (Part I)

- Logical separation between "session manager" and "media agents"
  - AVCCP, EXPANSE, GCC, SRI, Telescope, Touring Machine
  - CCCP allows separation or consolidation
- "Horizontal" and "vertical" protocol distinction
  - AVCCP, EXPANSE, GCC, SRI, Telescope, Touring Machine
  - CCCP addressing allows any combination
- Dependence on reliable and/or ordered transmission
  - AVCCP, EXPANSE, GCC, SRI, Telescope (horizontal), Touring Machine
  - CCCP allows different qualities of transmission

Points of Comparison (Part II)

- Session control distribution
  - AVCCP - one logical conference server per session
  - GCC, Telescope - distributed with assigned central control
  - CCCP, SRI - completely distributed
- Decison making
  - AVCCP, EXPANSE, Telescope, Touring - voting based
  - GCC - moderator and permission based
  - CCCP - determined by applications
- Addressing and message flow
  - EXPANSE, SRI, Touring - unicast messaging to peers
  - GCC, Telescope (horizontal) - multicast/multipoint distribution
  - AVCCP - client/server messaging
  - CCCP, Telescope (vertical) - messaging by class and unicast/multicast address

Functional Requirements (Part I)

- Extensibility
  - Allow interaction of existing applications
  - Allow new applications to "plug in" easily
  - Implies protocol must carry and deliver opaque data
  - Implies protocol must allow "registration" of new agents
- Flexibility of message addressing and delivery
  - Allow variety of control topologies (hierarchical, centralized, distributed, ...)
  - Allow qualified addressing (destination, application, class, role, ...)
- Transmission protocol independence
  - Avoid "modal" protocol states
  - Tolerate repeated "requests" and lost "responses"

Functional Requirements (Part II)

- Decision making
  - Provide primitives to support different resolution methods
  - Provide primitives to support moderators per action/service
- Membership model
  - Support range between tightly regulated to practically anonymous
  - Provide primitives to support different admission policies
- Stand-alone session description
  - Describes "buy in" cost of a session
  - Provides basis for proposal and counter-proposal (for negotiation?)
  - Provides basis for advertisement or use in other protocols (MIME, HTTP, ...)

Session Description Elements (Part I)

- Participants (i.e. warm bodied entities)
  - e-mail adresses
  - user friendly names
- Processes (i.e. computer agents of the "participants")
  - host/port pairs (or ISO equivalent)
  - protocols (TCP, UDP, RTCP, RTP, ...)
  - formats (audio, video, data encodings, ...)
  - specific applications (vat, nv, maven, collage, ...)
  - service attributes (qos, bandwidth, reservations, ...)
- Resources (i.e. local/remote access to specific data/service)
  - files (pathnames, FTP URL's, ...)
  - services (access to live data sources, ...)

Session Description Elements (Part II)

- Policies (i.e. admission rules, priviledges, floor control, roles)
  - membership (open/closed, "late comers" allowed)
  - admission (drop in, sponsored, by invitation)
  - floor control (moderated, free for all, priority based)
  - roles (moderators, owners, read-only versus read/write access)
- Dependencies (i.e. boolean combinations of items above)
  - ability to specify AND, OR, NOT combinations of participants, processes, resources, policies
- Scheduling/Advertisement (i.e. when, where, and how to join)
  - times when a session description is valid; is active; is stale
  - current state of session activity (canceled, in progress, ...)
  - additional contact information for "late comers"

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MMUSIC Charter

- Design and specify a protocol to:
  - perform management and coordination of multiple sessions and their multiple users in multiple media
  - enable session-level interoperability between different teleconferencing implementations.
- Working group will:
  - focus on the design of a session agreement protocol that supports tightly- and loosely-controlled conferences
  - document the requirements of the existing prototypes as a basis for the protocol development.
  - coordinate with other efforts related to multimedia conferencing:
    - » directory services for cataloging users and conferences,
    - » the RTP and RTCP protocols developed by the Audio/Video Transport Working Group,
    - » resource reservation and management at the network level,
    - » schemes for multicast address allocation.

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Goals and Milestones

- May 93
  - Hold an on-line working group meeting to discuss the conference control framework, the relevant terminology, a functional taxonomy and how different conversational styles place requirements on session protocols.
- Jun 93
  - Submit the Conference Session Control Protocol to the IESG for consideration as an Experimental Protocol.
- Aug 93
  - Post an Internet-Draft describing the Session Control Requirements.
- Nov 93
  - Post an Internet-Draft of the Session Control Protocol.
- Mar 94
  - Submit a revised Internet-Draft based on implementation experience.

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Suggested Working Group Output

- Produce Internet Drafts
  - Session Description Functional Requirements
  - Session Control Protocol Functional Requirements
  - Session Description Specification
  - Session Control Protocol Specification
- Additional Documents?
  - Session Control Architecture Description
  - Agreement Protocol Requirements/Specification
  - Resource Negotiation Requirements/Specification

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