Neste Generasjon Datanett

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- Project ENNCE
- A holistic view of the system
- End System QoS architecture
- QoS Negotiation and Connection Management
- Service Agent - Service Agent Control Protocol

ENNCE
Enhanced Next-generation Networked Computing Environment

Prosjektleder Stein Gjessing, Ifi, UiO

Nye forskningsresultater inne multimediaapplikasjoner og ende-til-ende overføringskvalitet

Tre dr.-kandidater og mange hovedfagskandidater

Publisering og arbeidsmøter (internasjonalt og nasjonalt)

ENNCE arbeidspakker:

1. Multimediaarkitektur, applikasjoner og kommunikasjonsinfrastruktur

- NR: Wolfgang Leister, Tore Karlsen
- Ifi: Stein Gjessing
- UNIK: Pål Spilling

- 1.1 Multimedia referansemodell
- 1.2 Demonstratorapplikasjoner
- 1.3 Kommunikasjonsinfrastruktur

ENNCE Arbeidspakker

2. Multimedia middelware for omgivelser med høy overføringshastighet og -kapasitet: MULTE

- Ifi/UiT: Frank Elisassen
- FFI: Robert MacDonald
- UNIK: Thomas Plagemann
- Animagic Systems AS
- SINTEF
- Alcatel interessert i deltagelse

flexible and adaptable middleware supporting QoS requirements of distributed multimedia applications, that includes support of

- flexible connection mangement
- enhanced interoperable stream multicast
- constrained latency high throughput
- DaCaPo

RESULTATER

- Referansemodell gjør fremskritt
- Nettverkinfrastruktur dokumentert og under oppbygging
- 3 dr.grad studenter starter til høsten (Ifi, Unik, FFI)
- Kontrakt mellom MULTE & Lancaster University formalisert
- NFR & British Research Council dannet CORBAng-initiative
- Implementering av VOD applikasjoner basert på DaCaPo
- Studier av virkingen av protocol configuration i DaCaPo
- Flere foredrag og presentasjoner, bl.a.:
- Robert MacDonald: "Distribuert programmering"
- Thomas Plagemann: "Objektprogrammering for distribuerte multimedie-systemer”

Budsjett (i K kroner)

Arbeidspakke 1:

NR- timebetaling:	1104
Utstyr	398
Reiser/drift	553
Totalt	2055

Arbeidspakke 2:

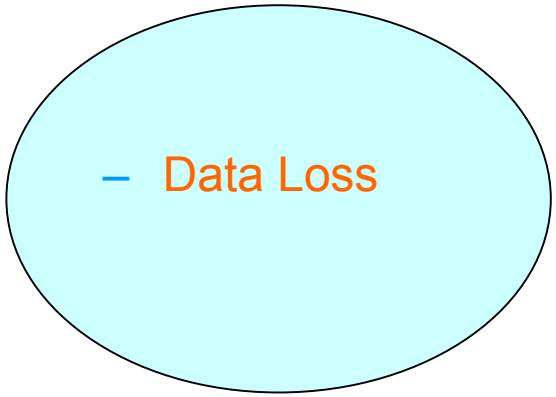
Stip (UiT, UNIK, FFI)	2926
Forskningsassistent	521
SINTEF	148
Animagic	0
Utstyr	250
Reiser/drift:	600
Totalt:	4445

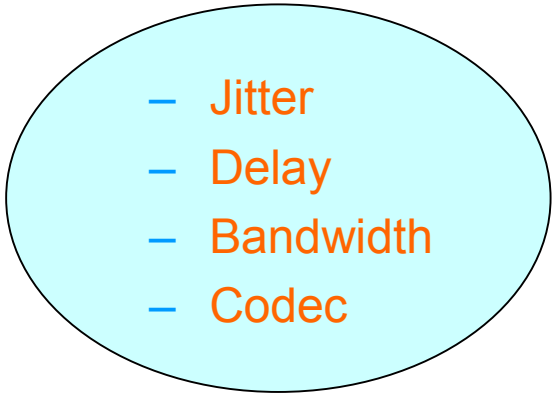
Totalt hele ENNCE: 6500 (hvorav 1478 i 1997)

Present and Future Networks

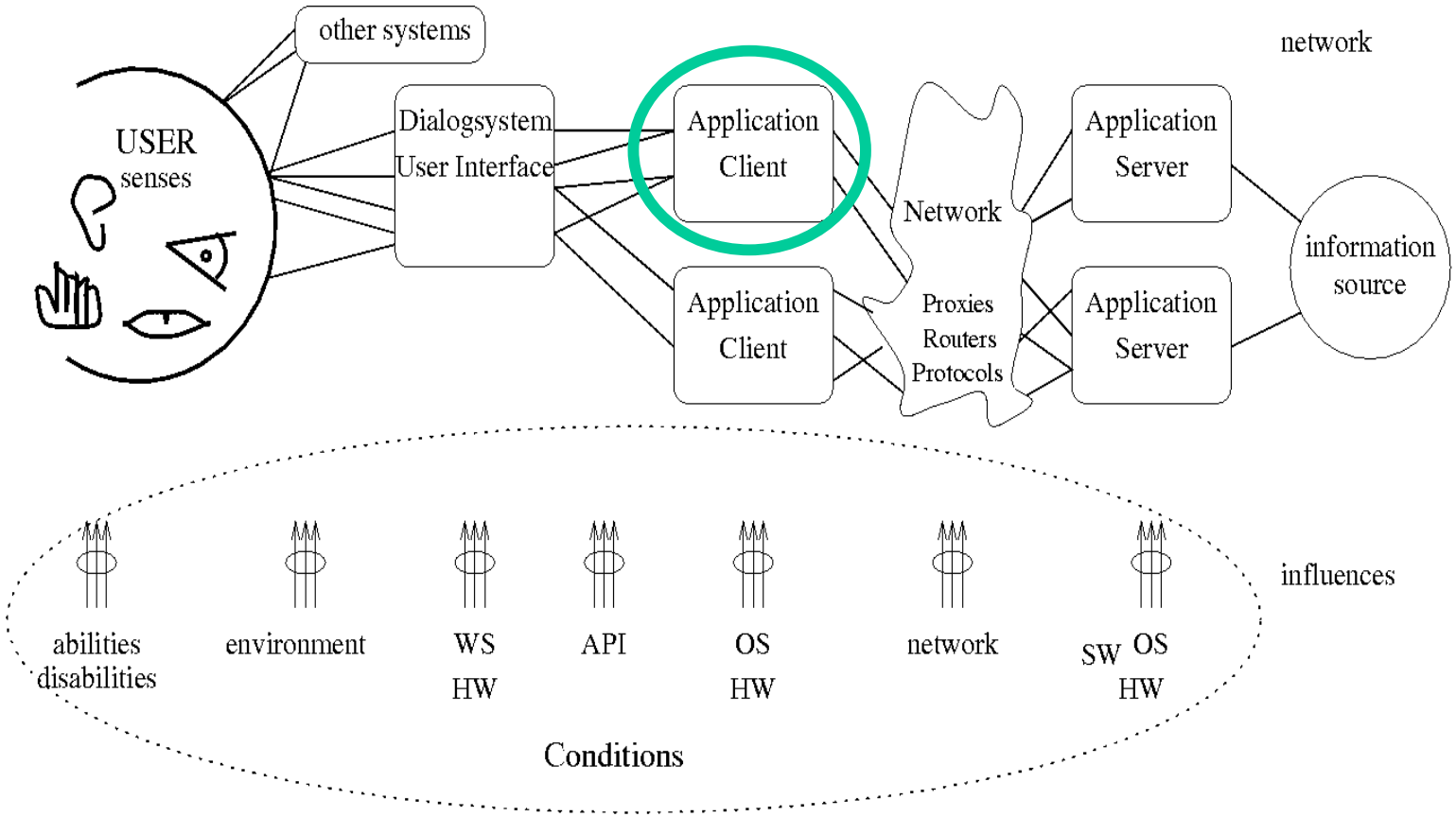
- Data Transport
- Elastic Applications
- Best Effort

- Multimedia Stream
- QoS (Quality of Service)
- Reservation
- Adaptation
- Negotiation

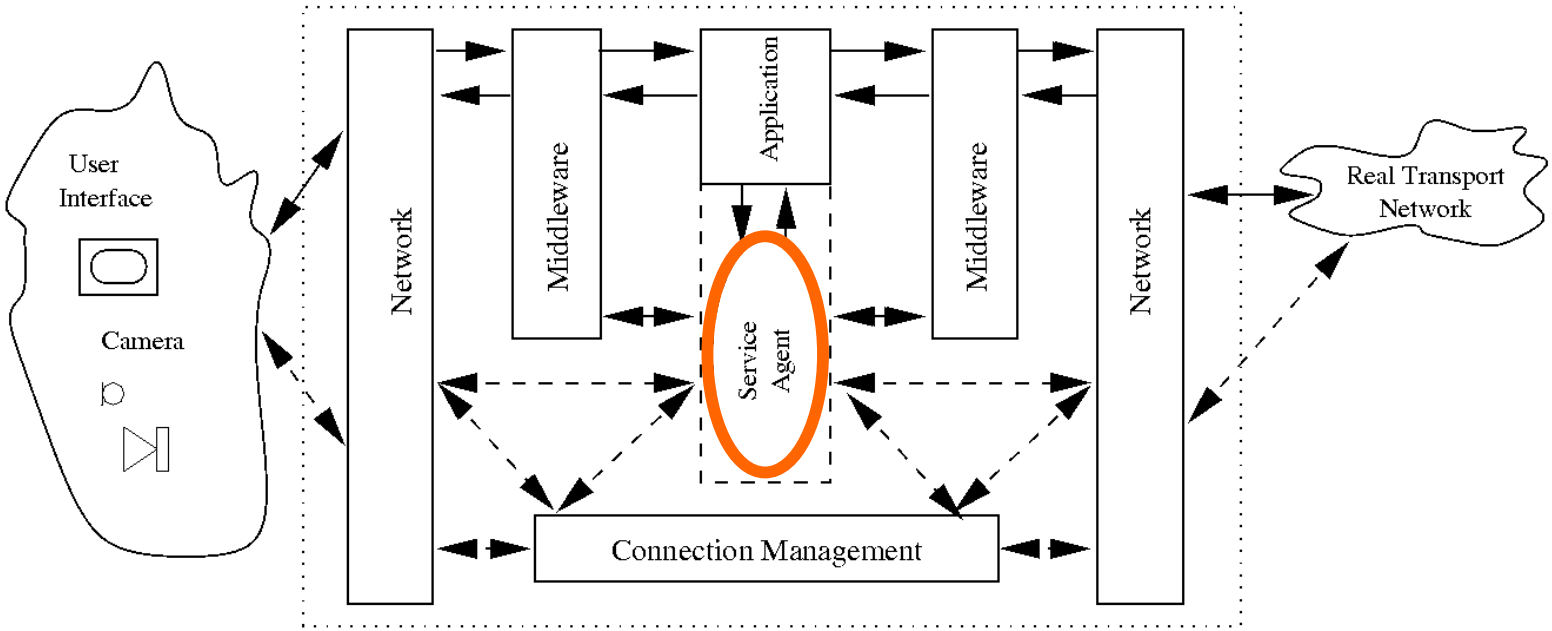




A Holistic View



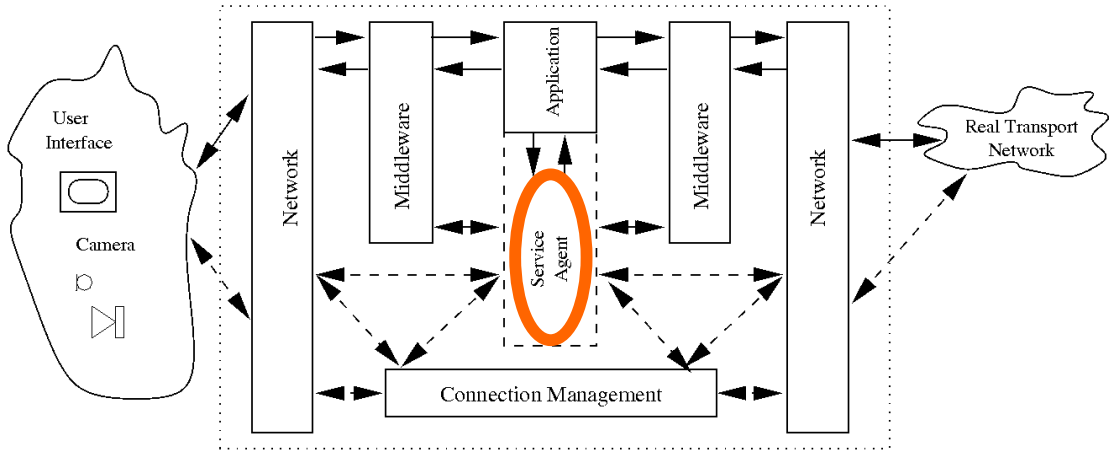
Interfaces in QoS Management



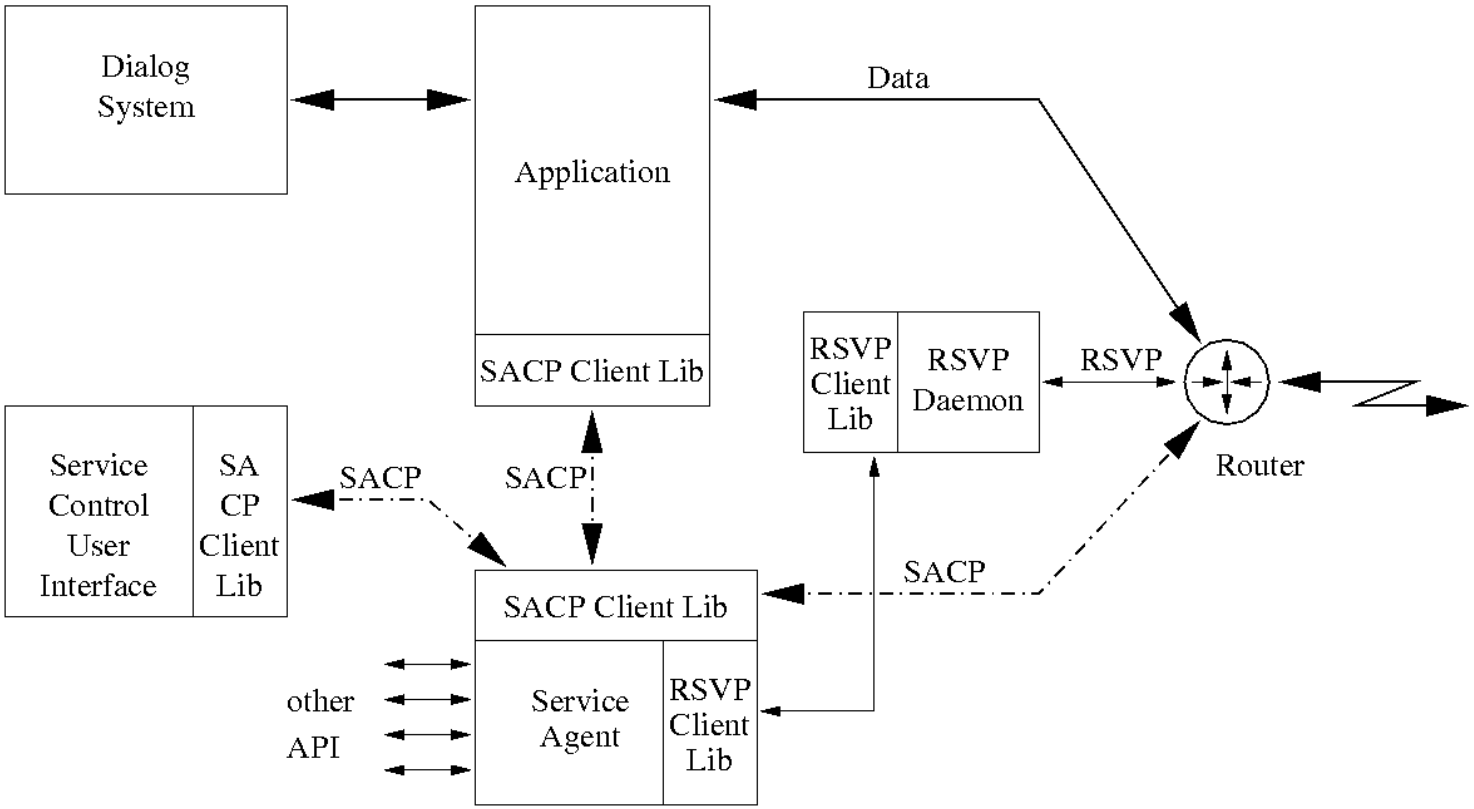
- Connection Manager
- Reservation Agent
- Network Interface
- Middleware
- Application
- Service Agent

Service Agent

- discern QoS capabilities of application, middleware, network
- support the user in negotiating QoS requirements
- configure end system
- establish network connection with right QoS properties
- negotiate QoS requirements with other end systems



Management Concept with SACP / RSVP



NR

SACP

Service Agent Control Protocol

WHO

- *Application*
- *Competing Applications*
- *User's Agent*
- *Network / RSVP*
- *Hardware / OS*
- *Remote Service Agent*

WHAT

- Status information
- negotiation strategies
- user requests
- responses to user
- user profile

NR

What now ?

- RSVP
- Connection Management
- COPS (Common Open Policy Service) Protocol (IETF Draft RAP COPS 01)
- Implementation
- Application
- Focus on user

IDMS 98

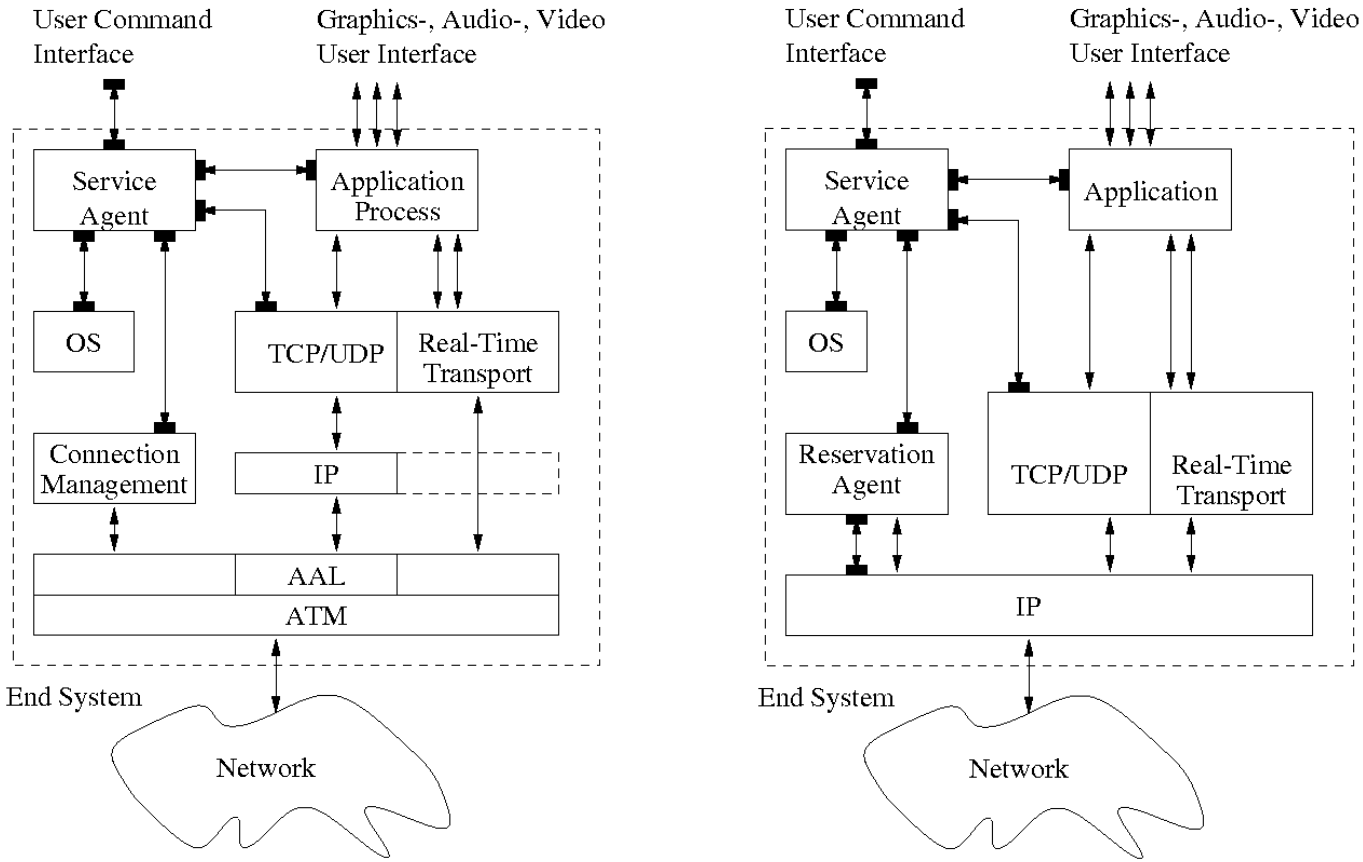
5th International Workshop on Interactive Distributed Multimedia Systems and Telecommunication Services,

8. - 11. September 1998

Oslo

http://www.unik.no/~idms98/

End System Architecture (ATM, IP)



QoS Negotiation and Connection Establishment

- Step 1: SA notified by application
- Step 2: SA requests and probes QoS capabilities
- Step 3: SA prompts user to state QoS requirements
- Step 4: SA requests RSVP daemon (IP) or Conn Mgr (ATM)
- Step 5: local SA connects to remote SA
- Step 6: both SA invoke appropriate configuration operations