CATI

Charging and Accounting Technology for the Internet
– CAPIV and MEDeB –

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CATI – Project Partners

- Computer Engineering and Networks Laboratory (TIK), ETH Zürich
- Institute of Computer Science, University of Zürich
- IBM Zürich Research Laboratory
- SWITCH Zürich
- Institute of Computer Science and Applied Mathematics (IAM), University of Berne
- Centre Universitaire d‘Informatique (CUI), University of Geneva
- Institute of Computer Communications and Applications (ICA), EPF Lausanne
- Swisscom AG, Berne

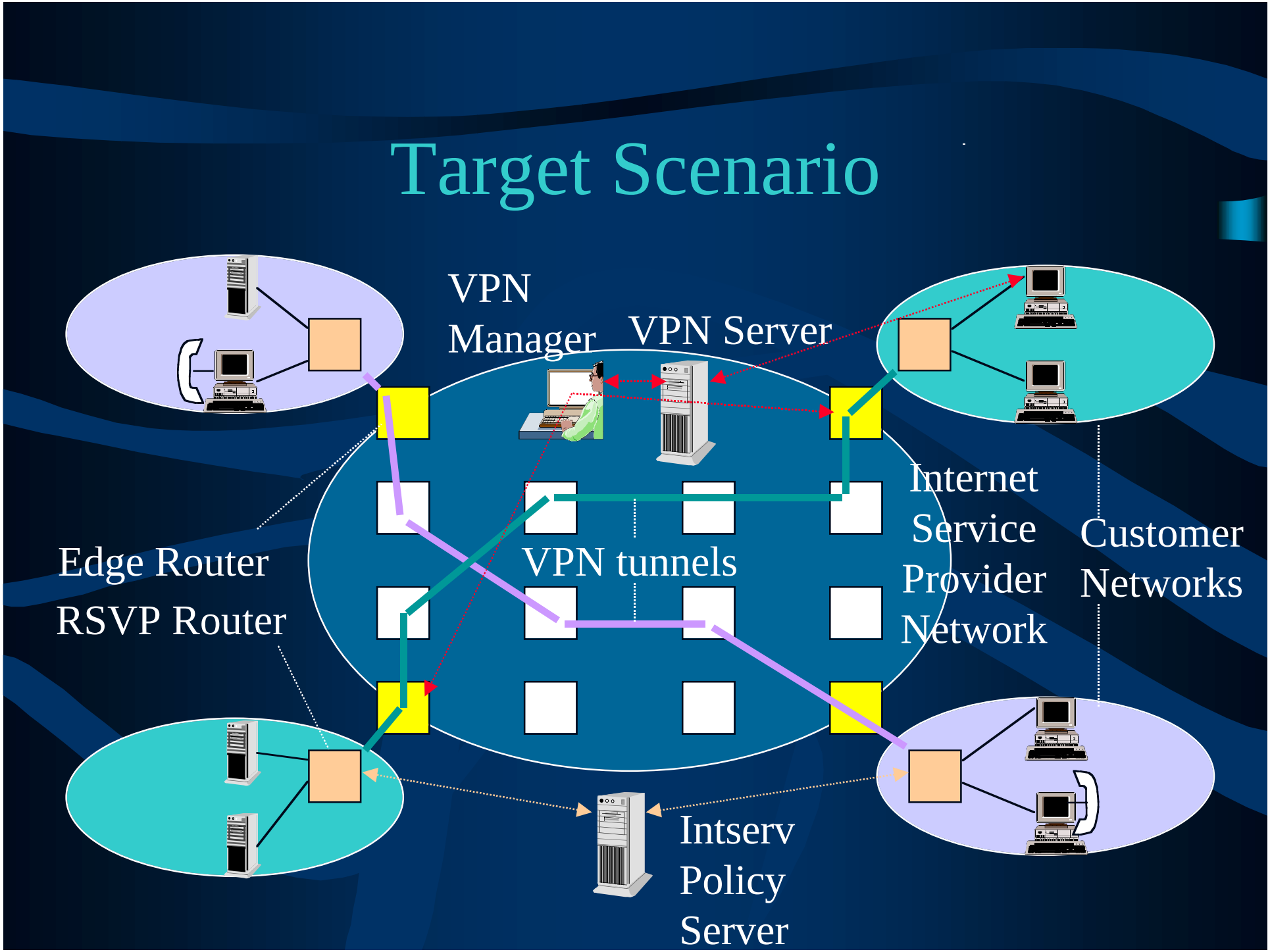
Project Goals

- Design, implementation, and evaluation of charging and accounting mechanisms for value-added Internet services:
  - Enabling technology for Electronic Commerce in terms of usage-based transport service charging
  - High-quality Internet transport
  - Virtual Private Networks (VPNs)
  - Business models for the packet-based Internet including cost and pricing models
  - Internet applications (*e.g.*, IP telephony)

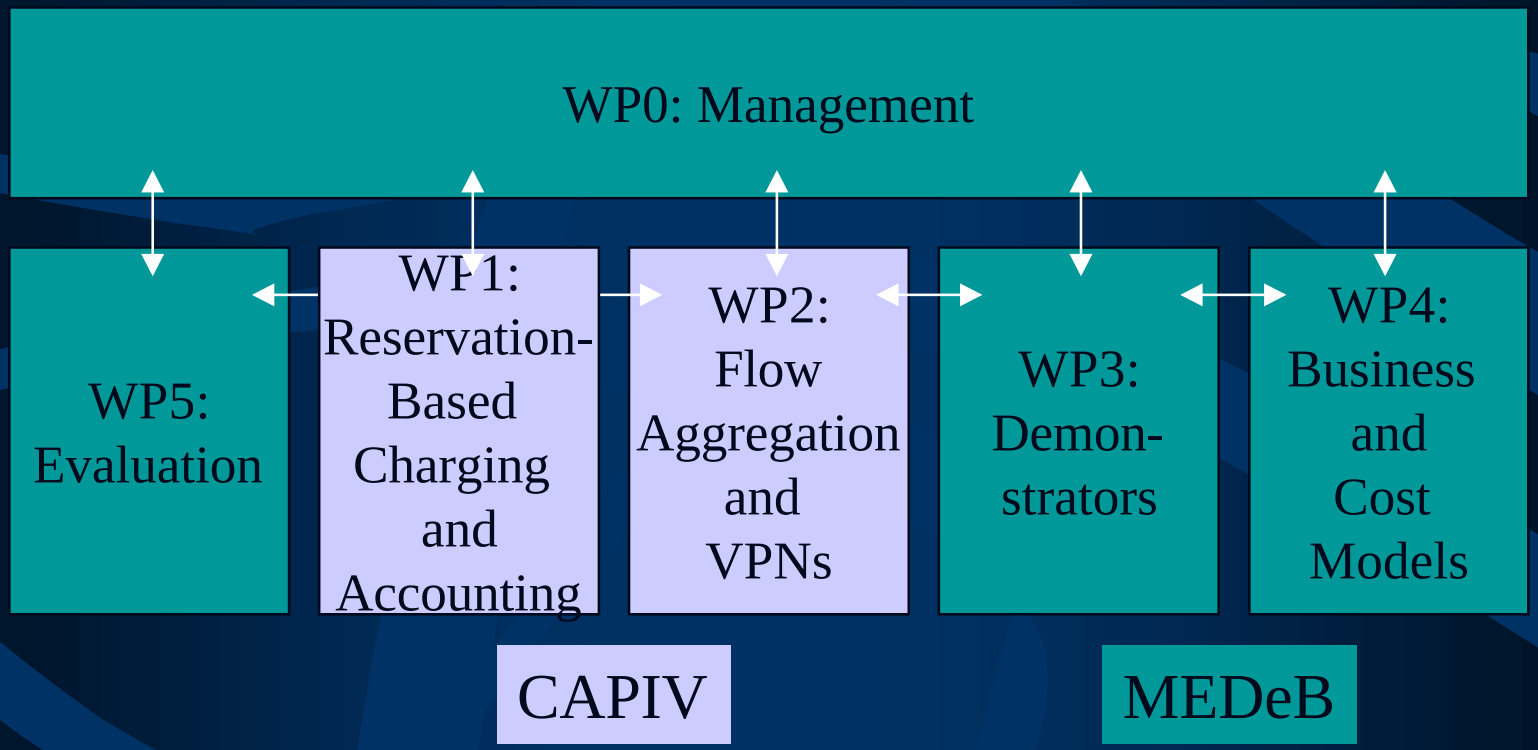
Compound-project CATI

- Charging and Accounting Protocols for the Internet and Virtual Private Networks (CAPIV)
  - Design and implementation of charging and accounting mechanisms based on existing protocols (intserv/diffserv)
  - Configuration and pricing of QoS-VPNs
  - Fairness / congestion control
  - APIs for Internet Electronic Commerce applications
- Management, Evaluation, Demonstrators, and Business Models (MEDeB)
  - Development and demonstration of a QoS-supporting IP Phone application
  - Definition of business and cost models for Internet services
  - Evaluation of charging and accounting mechanisms

Target Scenario



Work Packages



WP0: Project Management

- Tasks
  - Work package coordination
  - Deliverables
  - Public information
- Partners
  - TIK, IAM

WP1: Reservation Based Charging

- Tasks
  - Internet charging and accounting protocols
  - Integrated services
  - Integration of security and billing
  - Application support, *e.g.*, APIs
  - Trust issues
- Partners
  - TIK, Uni ZH, ICA, CUI

WP2: Flow Aggregation and VPNs

- Tasks
  - VPN network architectures
  - VPN configuration and charging
  - Integration of VPN and integrated service technology
  - Aggressive flow detection and fairness
- Partners
  - IAM, TIK, ICA, UniZH, SWITCH

WP3: Demonstrators

- Tasks
  - Development of IP phone using charging and accounting functions and protocols
  - Embedding of IP phone into Electronic Commerce scenarios
  - Operation of the demonstrator network
- Partners
  - IBM, IAM, ICA, CUI, SWITCH

WP4: Business / Cost Models

- Tasks
  - Cost models for Internet services and corresponding networking equipment
  - Pricing models for Internet services
  - Flow-based accounting schemes
  - Business models
- Partners
  - SWITCH, IAM, TIK

WP5: Evaluation

- Tasks
  - Defintion of metrics
  - Definition of evaluation scenarios for Electronic Commerce environments
  - Evaluation of implementations
- Partners
  - CUI, IAM, TIK, IBM

Milestones

	4Q98	2Q99	4Q99
WP0	1st peer review	2nd review demonstrator	final report
WP1	basic design	prototype implementation	security integration
WP2	VPN configuration design	prototype implementation	final implementation
WP3	IP phone demonstrator	real-world scenario	final implementation
WP4	pricing models	accounting prototype impl.	cost model
WP5	definition of metrics	evaluation scenario	final evaluation

Summary

- Compound-project CATI with minimized management effort (concentrated into WP0)
- Charging and accounting of transport services for the packet-based Internet:
  - Reservations (intserv)
  - Virtual Private Networks (diffserv)
- Direct use of Internet technology as an enabler for open Electronic Commerce platforms