

ARTIST2 – Year 1 Review

Grenoble, October 3rd-4th, 2005

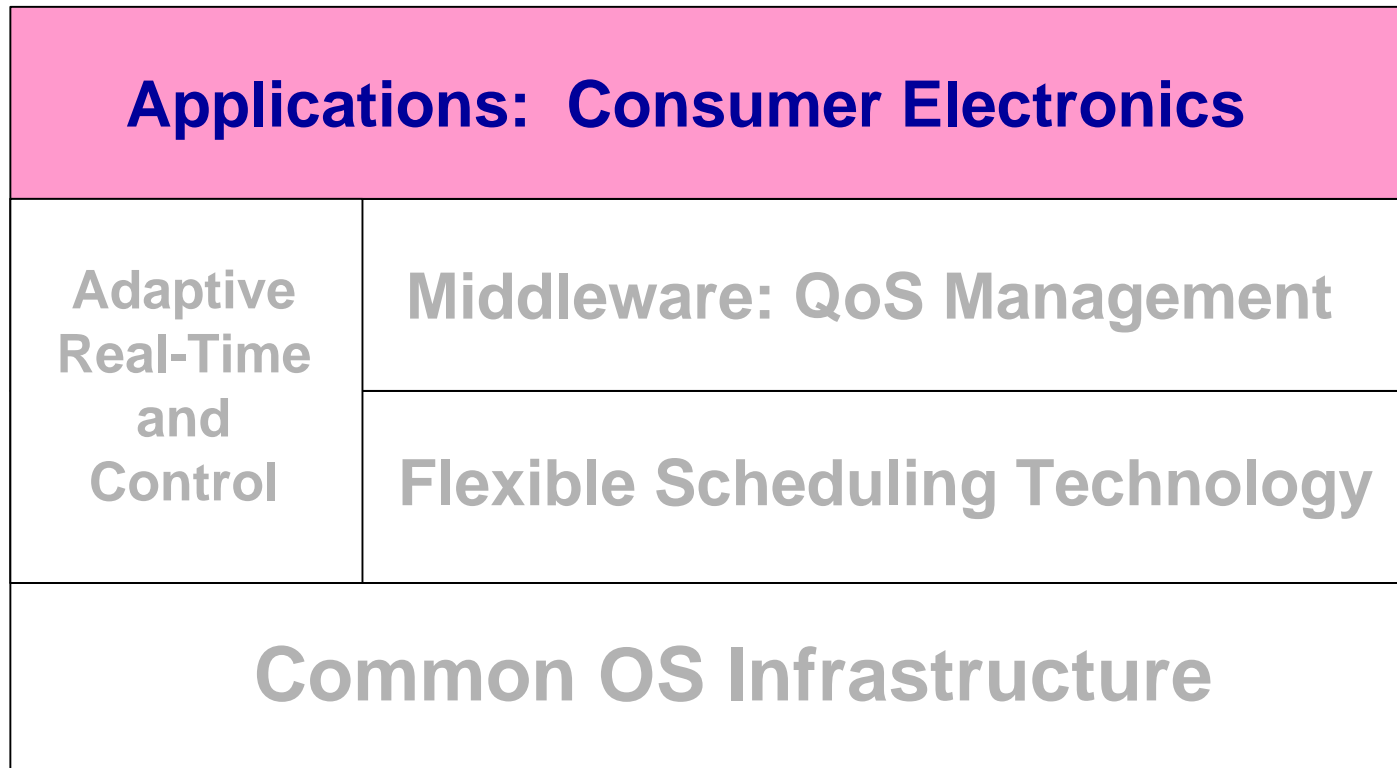
Activity

Cluster Integration

Adaptive Resource Management for Consumer Electronics

Activity leader : Gerhard Fohler (MDH)

Overview of the activities of the ART cluster



Outline of the Presentation

Objectives

Industrial Needs and Experience

Approach

Year 1 Activities

- Achievements & Ongoing Work
- Analysis

18 Month Perspective

- Work planned for the next 18 months

Objectives

resource demand: stream

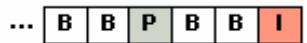
resource availability
NW bandw.

resource availability
CPU, cache, bus.

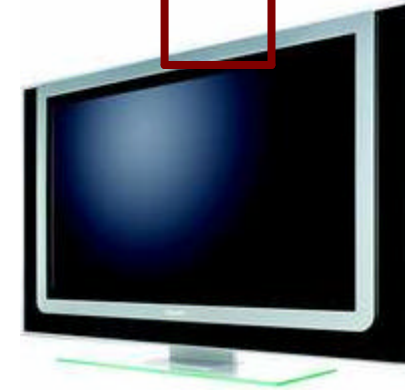
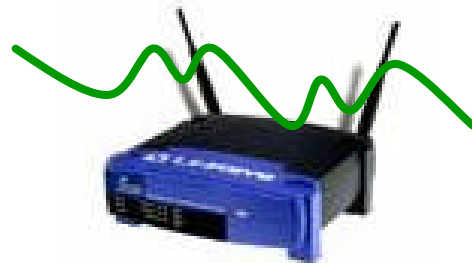
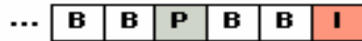
Video stream



Video stream



Video stream



"end-to-end"



Industrial Needs and Experience

- **Artist2 Interaction with Industry**
- **Consumer Electronics**
 - **Media processing and delivery**
 - TVs, DVDs, DVB*
 - leading European manufacturers*
 - Philips*
 - **Telecommunication**
 - mobile phones*
 - leading European manufacturers*
 - Ericsson, Nokia*
- **Industrial Needs**
 - *“Delivering a frame too late is a competitive disadvantage”*
 - *“Competition is via features; efficient resource use provides more features”*

Year 1 activities
Approach

- **Exploit experience of ongoing European and national projects of partners**

- **Exploit industrial contacts**
 - for specific requirements
 - acceptance testing of example solutions

- **Organize meetings within the cluster to integrate the different expertise of the partners**

- **Organize meetings between scientists of cluster of industrial researchers and (later on) engineers**

Year 1 activities

Achievements & Ongoing Work

- **Meetings**
 - Collaboration with Philips, Nokia, Ericsson, Visual tools
 - Philips Software Conference – Real-time Workshop
 - Focused Workshop at ECRTS
- **Temporal issues and resource management framework**
- **Video stream demand analysis**
- **Adaptive methods for network bandwidth management**
- **Multi resource management, in particular with respect to cache aware scheduling**
- **Scheduling mechanisms for temporal isolation**
- **Middleware support for QoS management**

Year 1 activities

Management Perspectives

- **What worked well**
 - industrial interest and participation
 - partner expertise

- **Difficulties encountered**
 - IPR
 - scheduling of meetings, availability of “engineers on the floor”
 - potentially large followup work

- **Structural changes in the activity**
 - focus on meeting with industrial “floor people”
 - creating awareness of existing scientific solutions
 - understanding real issues
 - acceptance testing of approaches

18 Month Perspective

Work Planned and Changes for the next 18 months

- **Focus on meeting with industrial “floor people”**
 - Workshop Philips “floor” – ART cluster in November?
 - creating awareness of existing scientific solutions
 - understanding real issues

- **Acceptance testing of approaches – evaluation on platform within Cluster**

- **Provide input to Activities Flexible Scheduling, QoS Aware Components, Platforms**