Media Analysis Management Interface (MAMI)
- Standardization for energy saving -

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NEC Corporation

Who are we? (about NEC Corporation)

▌ NEC is a global large-scale system integrator with integration of IT and network technologies, headquarter in Japan.

- Net Sales: 44.2 billion USD
- Employee: 24,871, 142,358(with subsidiaries)   * As of Mar. 31, 2010

▌ Providing "Cloud Services" to various companies and governments in various areas including environment and energy.

NEC Headquarters Building (Minato-ku, Tokyo)   NEC Tamagawa Plant (Kawasaki, Kanagawa)

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About "MAMI-XG"

Media Analysis Management Interface Incubator Group

- Study the interface for applications to acquire the analysis data from various "media" (such as video images, sensors, and so on)
- Web standard for server collaboration in large-scale system integration
- Focusing on "Energy Saving" as the first use case
- See http://www.w3.org/2005/Incubator/mami/

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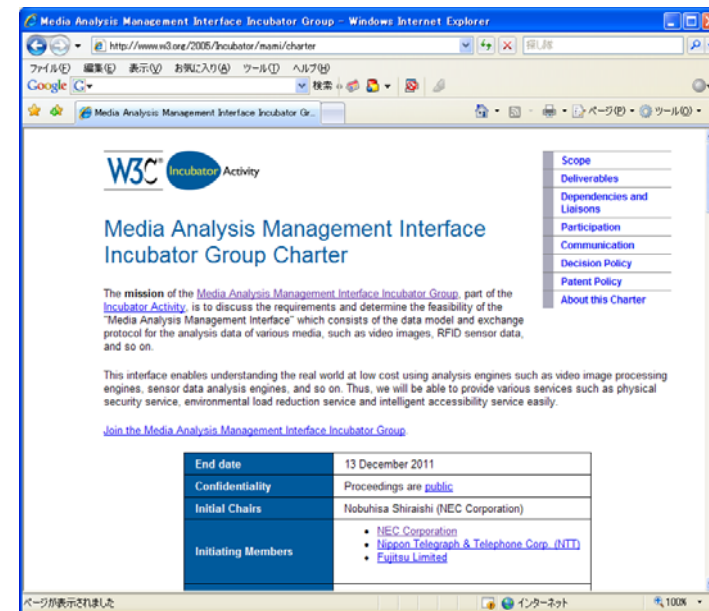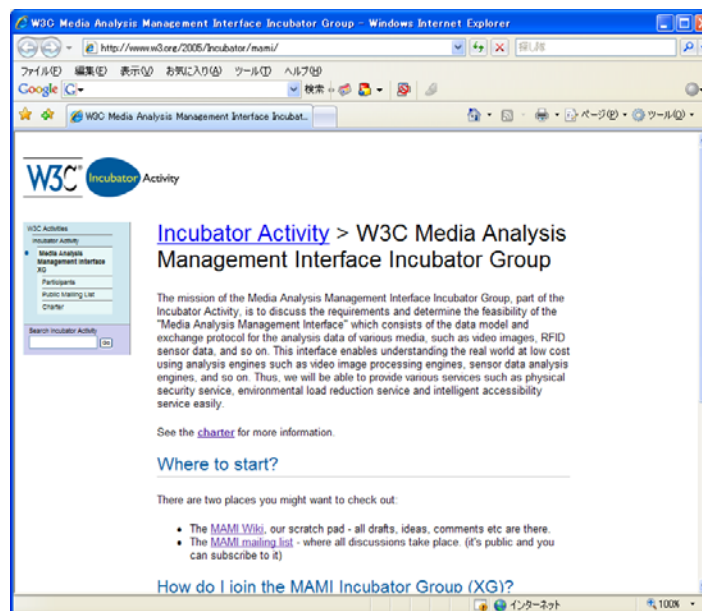
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Background – Increasing needs of energy saving

- Accelerating environmental load reduction worldwide
  - Greenhouse gas emission reduction in Kyoto Protocol

- Particularly in Tokyo, the power shortage caused by the great earthquake, tsunami, and nuclear plant problem is pretty serious
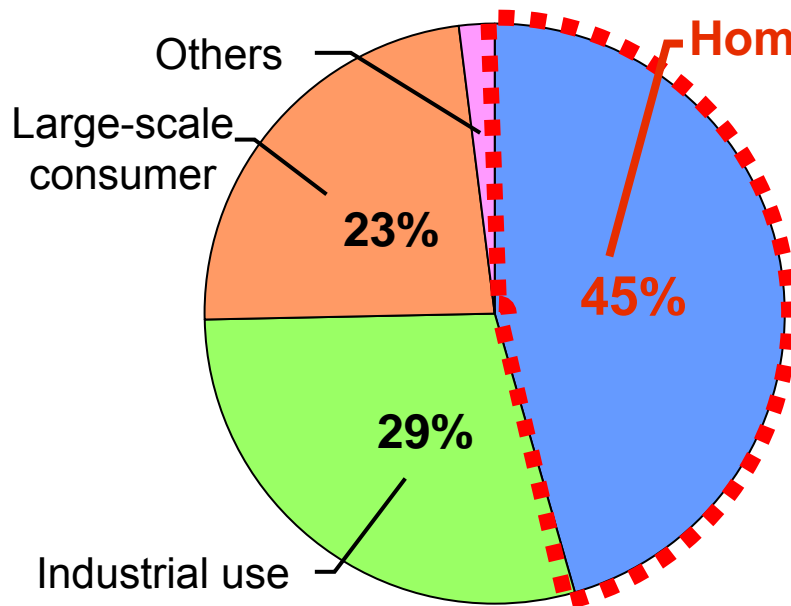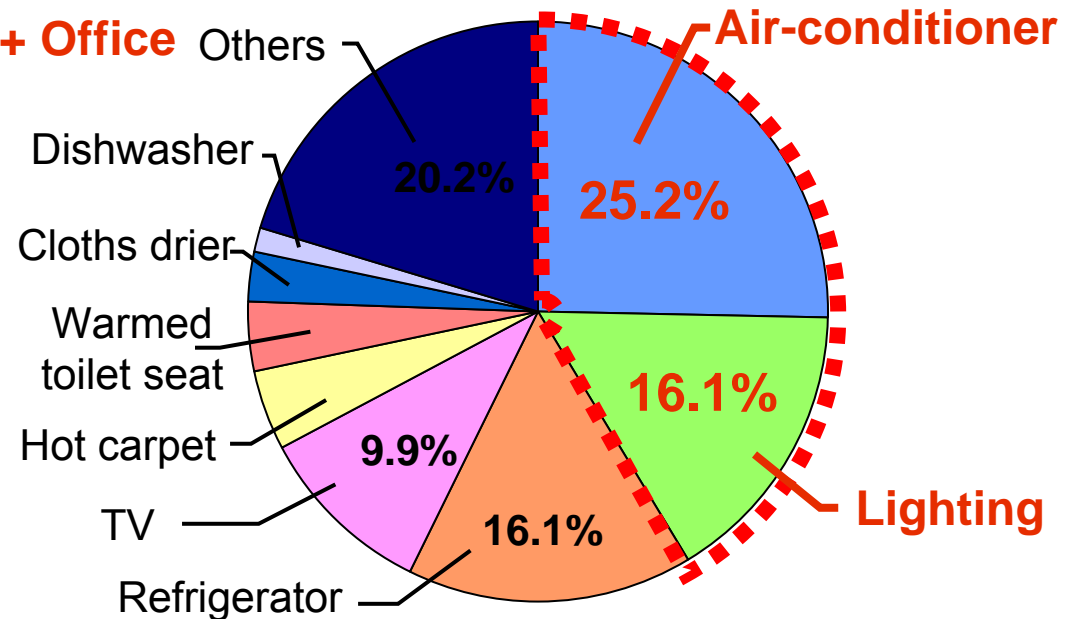
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Power Consumption Statistics (in Japan)

- 45% by home and office
- 40% by air-conditioner and lighting

Power consumption in Tokyo [*2]

Others

Large-scale consumer

23%

29%

Industrial use

Home + Office

45%

Power consumption in home [*3]

Others

Dishwasher

Cloths drier

Warmed toilet seat

Hot carpet

TV

Refrigerator

Air-conditioner

20.2%

25.2%

16.1%

9.9%

16.1%

Lighting

Adaptive control of air-conditioner and lighting in home and office will be effective

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Energy Saving Applications are getting popular

▌ What is the "Energy Saving Application"?

- Encourage to save power consumption by visualizing the status of real world (people location, power consumption status, etc) or control facilities adaptively to the real world status

▌ Developers of energy saving application are expanding

- Not only the energy saving functions embedded in home appliance, but general companies or consumers are developing the energy saving applications freely
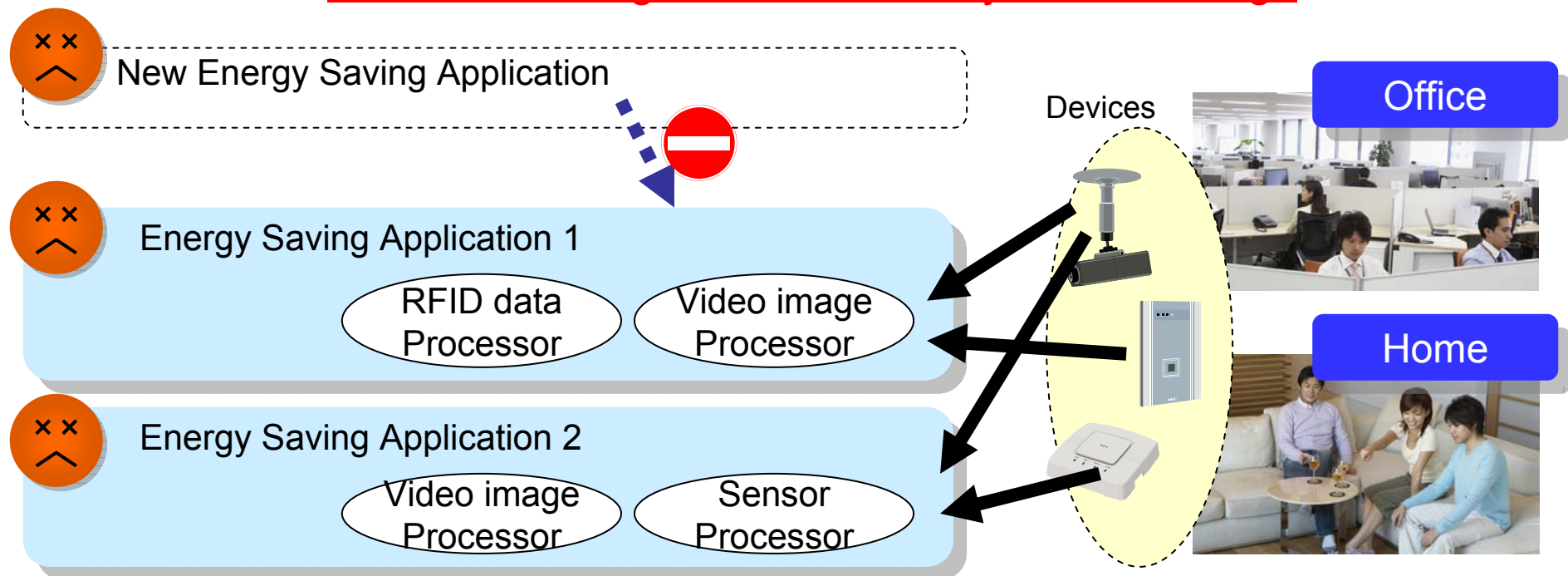
> A Mechanism to acquire the status of real world "easily" and "openly" will be needed

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Problem

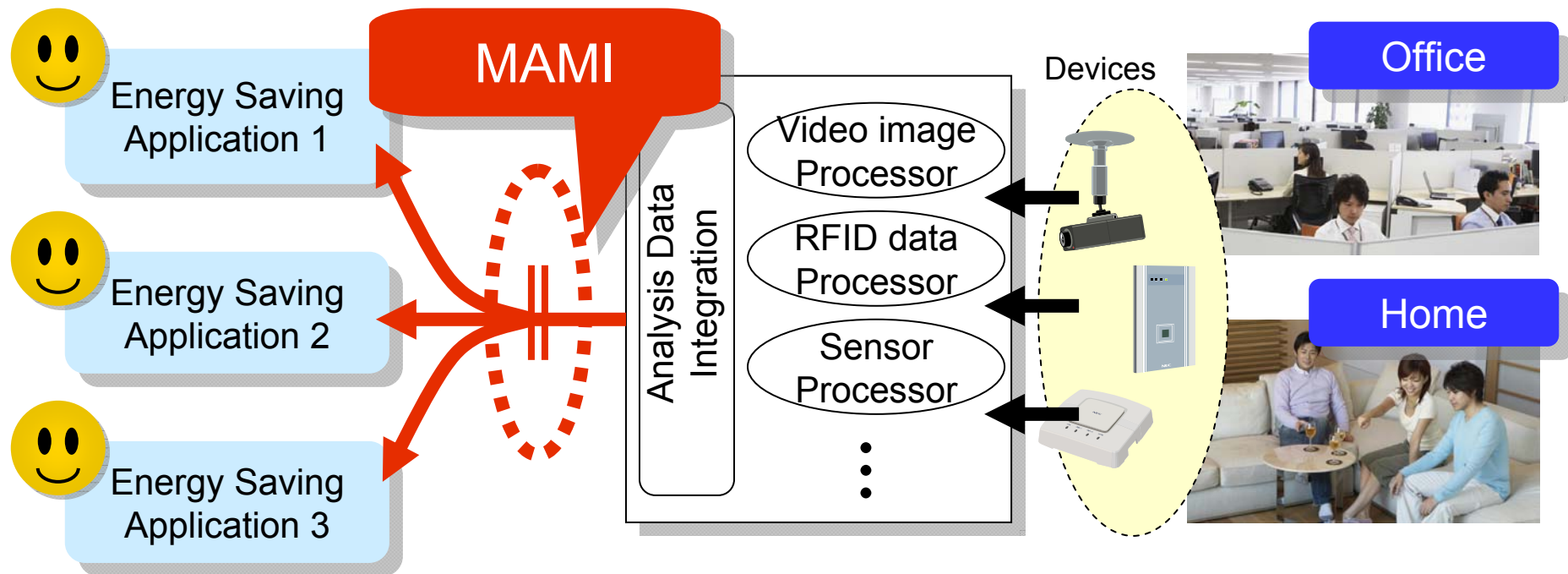## Applications CANNOT acquire the status of real world easily

- The status data analyzed from cameras or sensors installed in the real world is not open. The entry barrier for energy saving application is high.

- The Interface to acquire the analysis data depends on each analysis method. The cost to integrate various analysis data is high.

New Energy Saving Application

Devices

Office

Energy Saving Application 1

RFID data Processor

Video image Processor

Home

Energy Saving Application 2

Video image Processor

Sensor Processor

Approach

■ Determine the Interface for applications to acquire the status of real world easily and openly

- API to acquire the status of the real world
- Model for the status of the real world (vocabularies)
  - Location of human, temperature, humidity, illuminance, power consumption, etc
- Protocol for exchanging status data

Energy Saving Application 1

Energy Saving Application 2

Energy Saving Application 3

MAMI

Analysis Data Integration

Video image Processor

RFID data Processor

Sensor Processor

Devices

Office

Home

Merit

Easy to develop energy saving applications on the Web

- Energy saving application developers can easily acquire the status of real world through MAMI

Accelerate the expansion of energy saving applications

- The energy saving applications which acquire the status data through MAMI are also applicable to the other various situations in which the status data is provided through MAMI

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Use Case Example (Demo)

"Office Worker Trajectory Visualizer / Facilities Controller"

(Experimental prototype developed in MIC (Japan) national project)

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Current status and Future work

Current status

- Launched MAMI-XG in Dec 2010.
- Discussed the use cases of MAMI and decided to focus on the energy saving application as the first use case.
- Contributed the specification of the MIC experimental prototype and started technical discussion.

Future work

- Clarify the target domain and concrete use cases other than energy saving, list-up the requirements in the target domain
- Prototype application and analysis engines which supports MAMI
- Seeking collaboration with other W3C groups
  - Started collaborating with MMI (Multimodal Interaction WG)
  - Refer the spec by existing WG (Media Fragments WG, RDF WG, etc)

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Thank you for your attention.

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