

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)

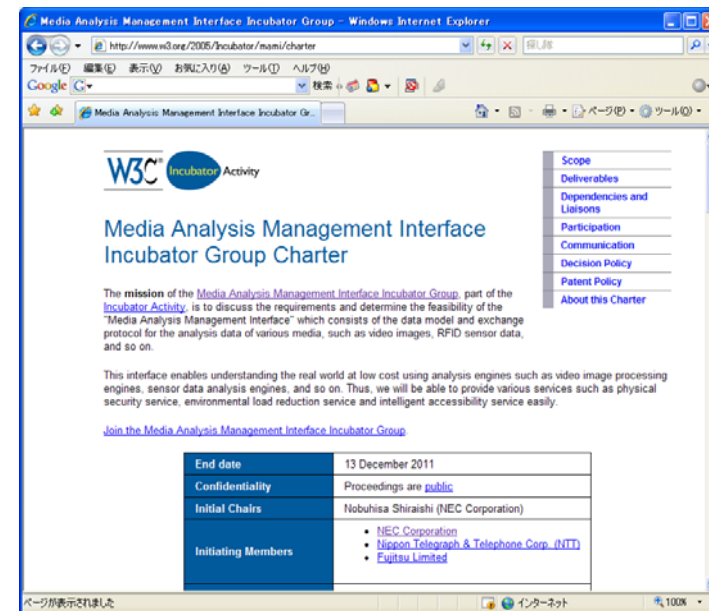
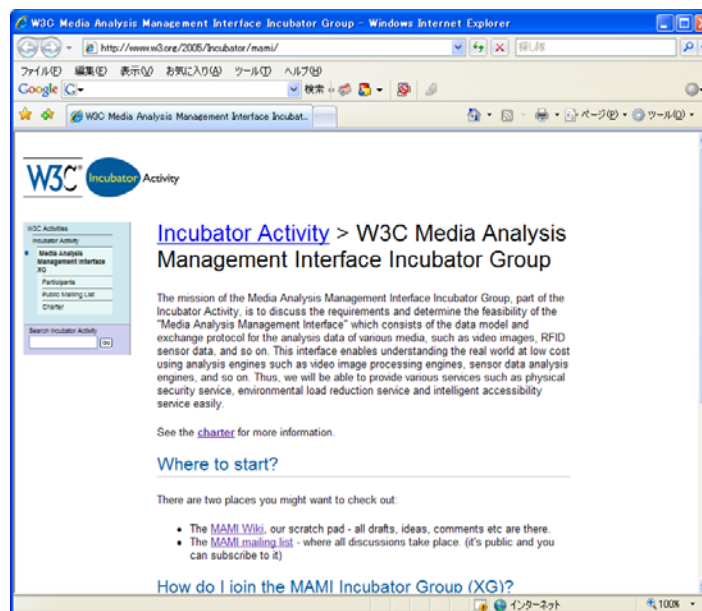


NEC Tamagawa Plant (Kawasaki, Kanagawa)

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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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

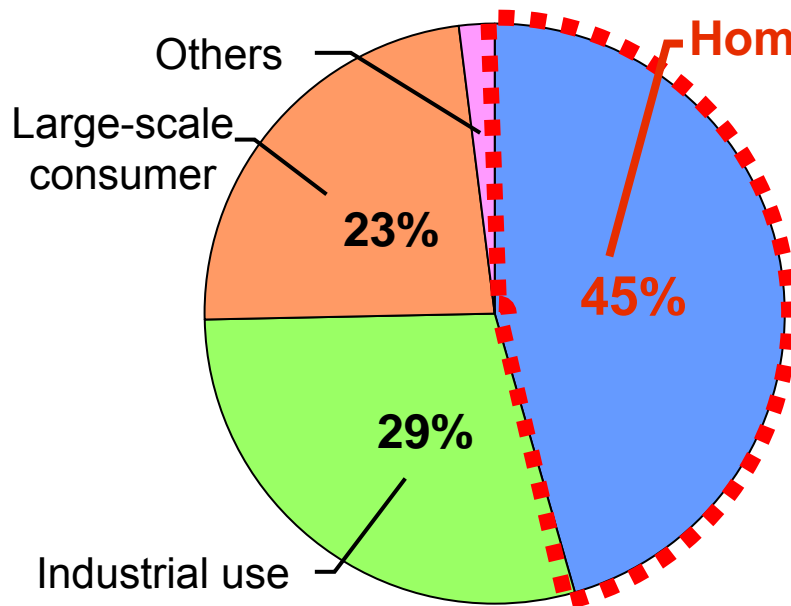


Power Consumption Statistics (in Japan)

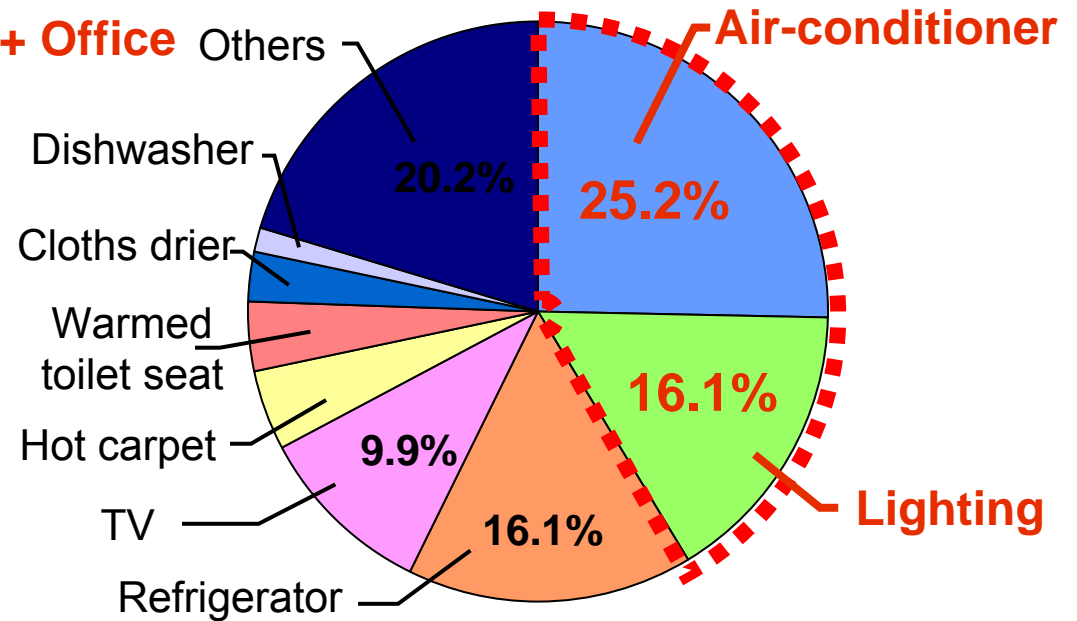
45% by home and office

40% by air-conditioner and lighting

Power consumption in Tokyo (*2)



Power consumption in home (*3)



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

(*2) http://www.fepc.or.jp/library/data/demand/_icsFiles/afieldfile/2011/02/28/kakuho0228.pdf

(*3) http://kaden.watch.impress.co.jp/docs/news/20110315_432897.html

Energy Saving Applications are getting popular

What is the “Energy Saving Application”?

- Encourage to save power consumption by visualizing the real world status
- Control facilities adaptively to the real world status

Developers of energy saving application are expanding

- Embedded in home appliance
- General companies or consumers

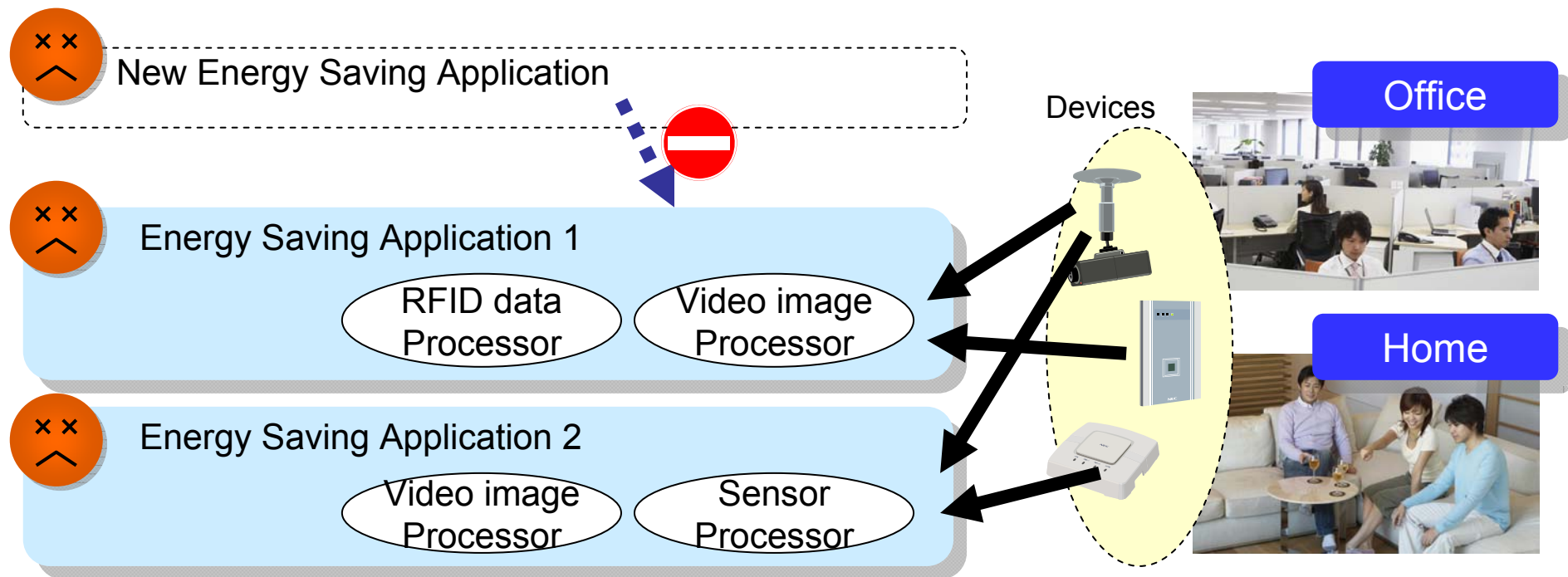


A Mechanism to acquire the status of real world
“easily” and “openly” will be needed

Problem

Applications **CANNOT** acquire the status of real world easily

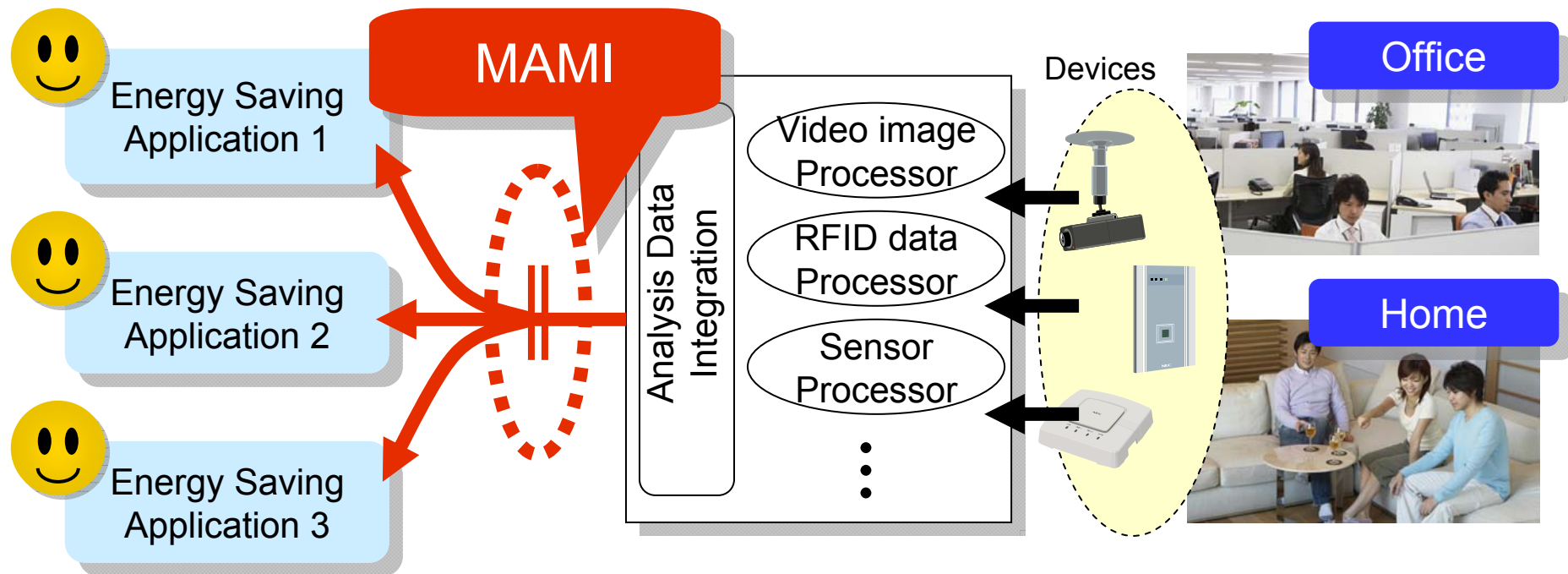
- The status data analyzed from cameras or sensors installed in the real world is not open.
- The Interface to acquire the analysis data depends on each analysis method.



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)
- Protocol for exchanging status data



Merit

■ Easy to develop energy saving applications on the Web

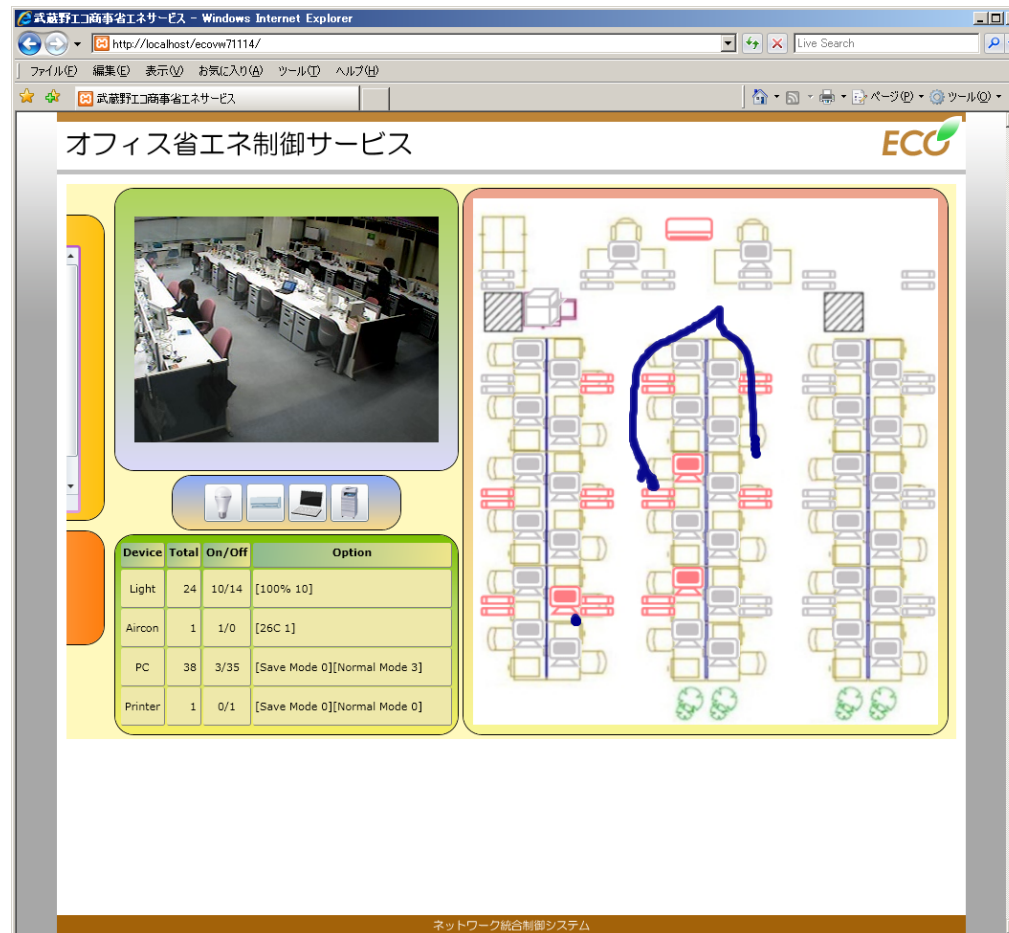
- Energy saving application developers can easily acquire the status of real world through MAMI

■ 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

Use Case Example (Demo)

“Office Worker Trajectory Visualizer / Facilities Controller” (Experimental prototype developed in MIC (Japan) national project)



オフィス省エネ制御サービス

ECC

Device	Total	On/Off	Option
Light	24	10/14	[100% 10]
Aircon	1	1/0	[26C 1]
PC	38	3/35	[Save Mode 0][Normal Mode 3]
Printer	1	0/1	[Save Mode 0][Normal Mode 0]

ネットワーク統合制御システム

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)

Thank you for your attention.

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Acknowledgment

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