

Panel Session 4 in ICBN2004

Content Networking

April 9, 2004

Organizer

Tomonori Aoyama

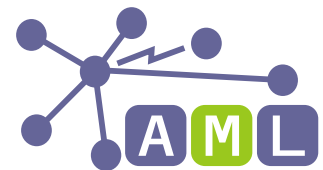
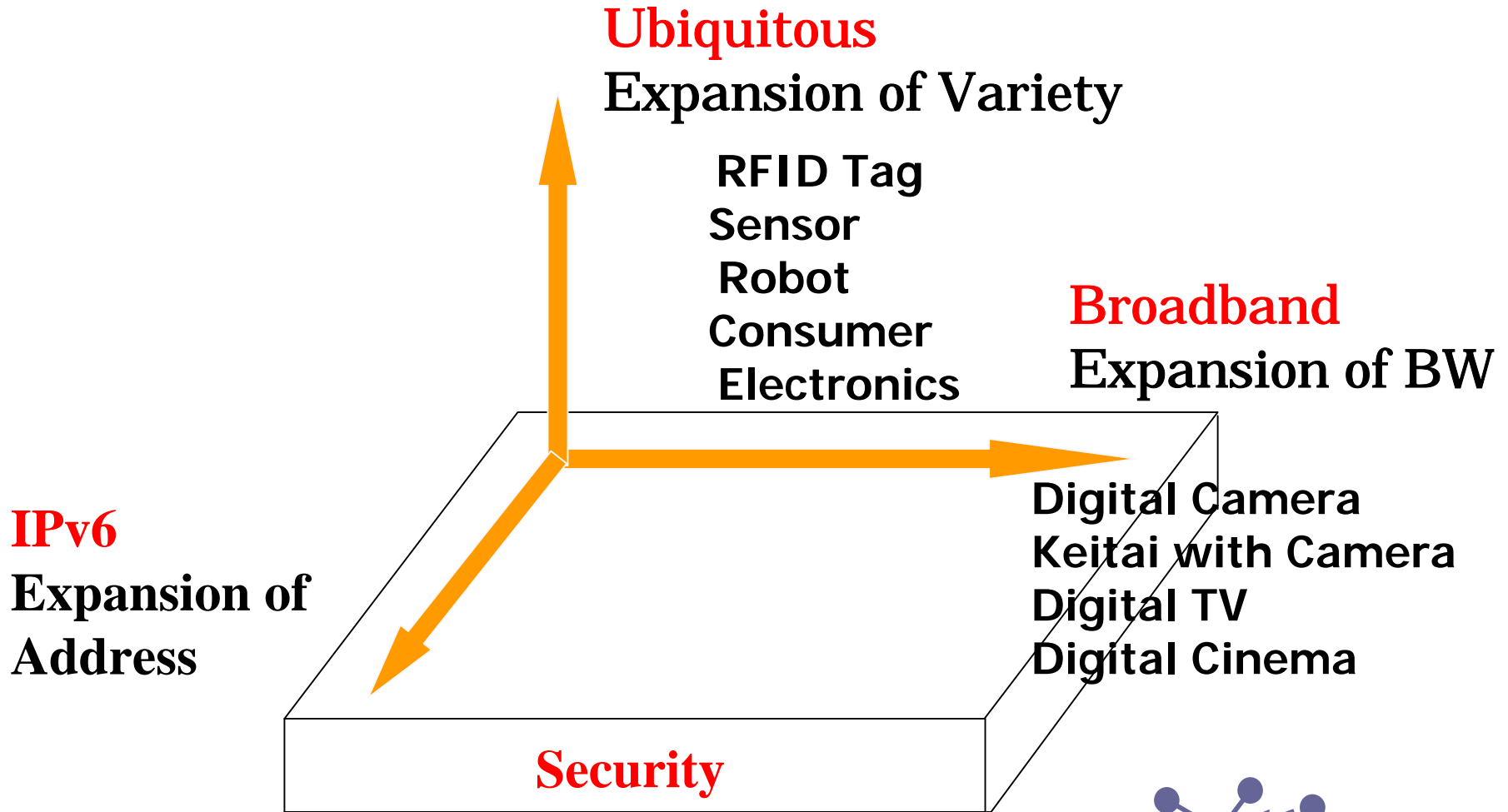
The University of Tokyo

IT Evolution in 5 Years in Japan

1999.4	2004.3		Item
17 M	< 70 M	x 4	Internet User
13%	< 58 %	x 4	Penetration Rate
32,000	< 14M	x 440	Broadband User
41M	< 80M	x 2	Cellular Phone User
50,000	< 70M	x 1400	Internet Access over Cellular Phone



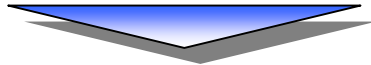
IT Evolution



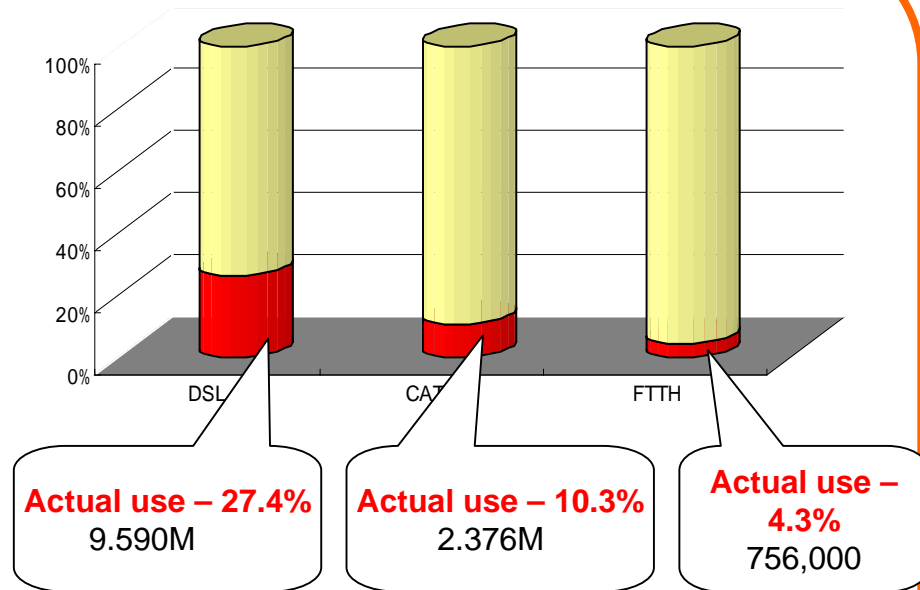
2. Transition to New IT Strategy

The first phase was successful but.....

Actual use is still low
(Able to connect but do not)



Advancement of IT strategy to
the second phase is urgently required
(expansion in actual use)



(Source) MPHPT (as of end of October 2003)
(Note) Percentages refer to the share of actual users compared with the number of potential users.

Issues of Broadband Services

- What is killer contents ?**
- How to transfer them smoothly and with sufficient quality ?**
- How to deliver them over heterogeneous networks ?**
- How to protect them ?**
- How to charge them ?**

Show Biz Contents

Cinema

Opera

Musical

Concert

Pro-sports



Start of Digital Cinema

Film-less Projection in June 1999

<http://www.starwars.com/>



STAR WARS
EPISODE I
THE PHANTOM MENACE



Prototype SHD digital cinema delivery system

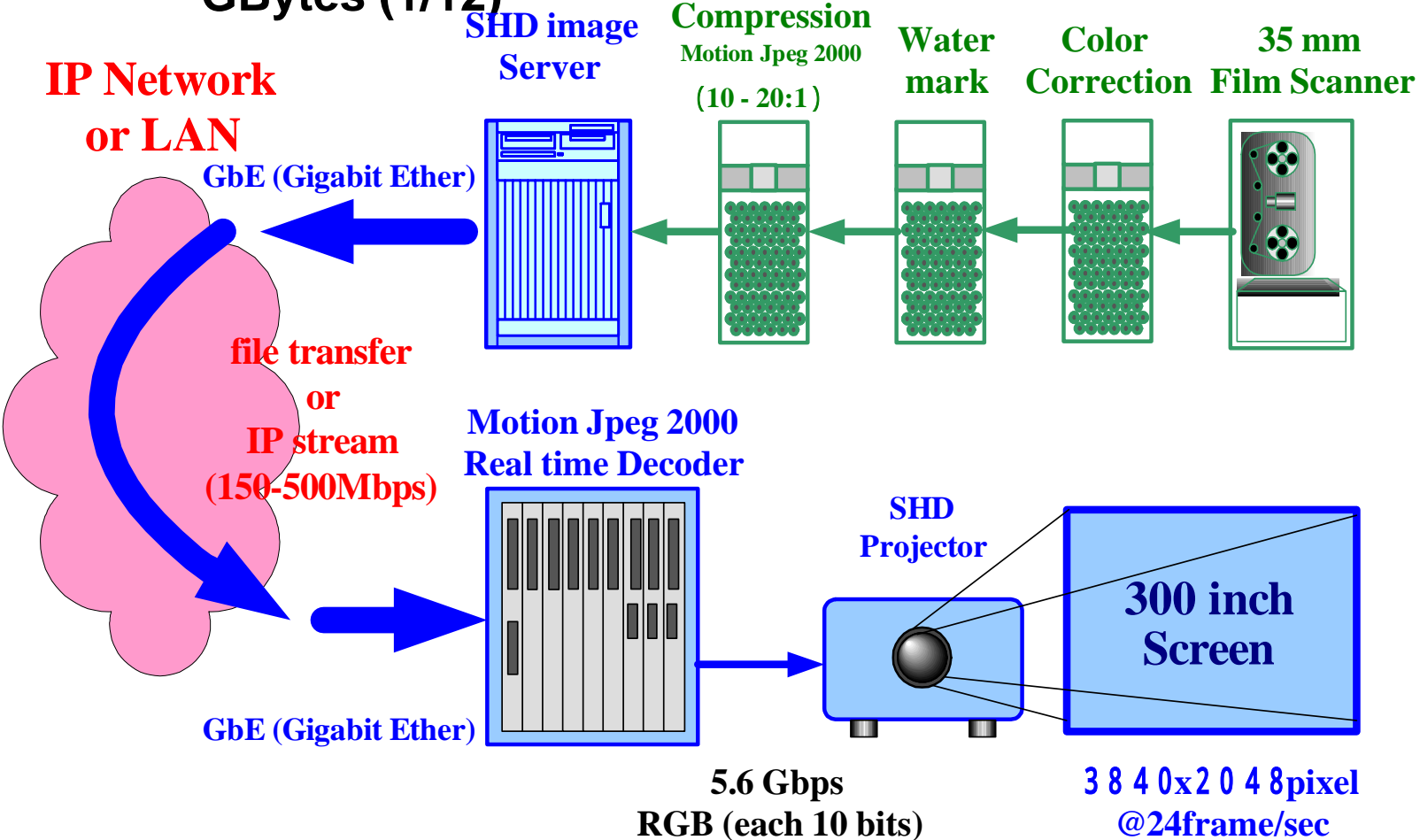
Source: NTT Network Innovation Labs.



(From left) PC-Server, GbE-Hub, JPEG2K-decoder & Projector

Prototype SHD digital cinema delivery system

- Scanned from 35mm-film movies
 - 2-hour movie: 4.5 TBytes (Original) 350 GBytes (1/12)



Evaluation test in the Paramount Theater

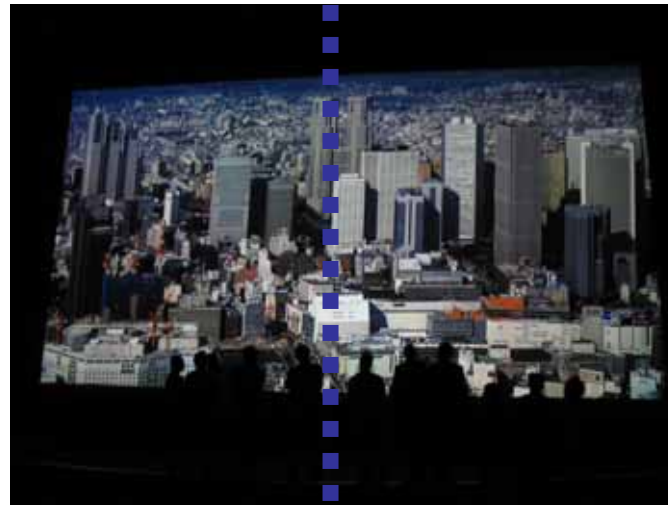
Side by Side Evaluation Test

Film Projector

Screen Size 600 inches

D – ILA Projector

4K x 2K



Demonstration for in Europe

June, July, 2003

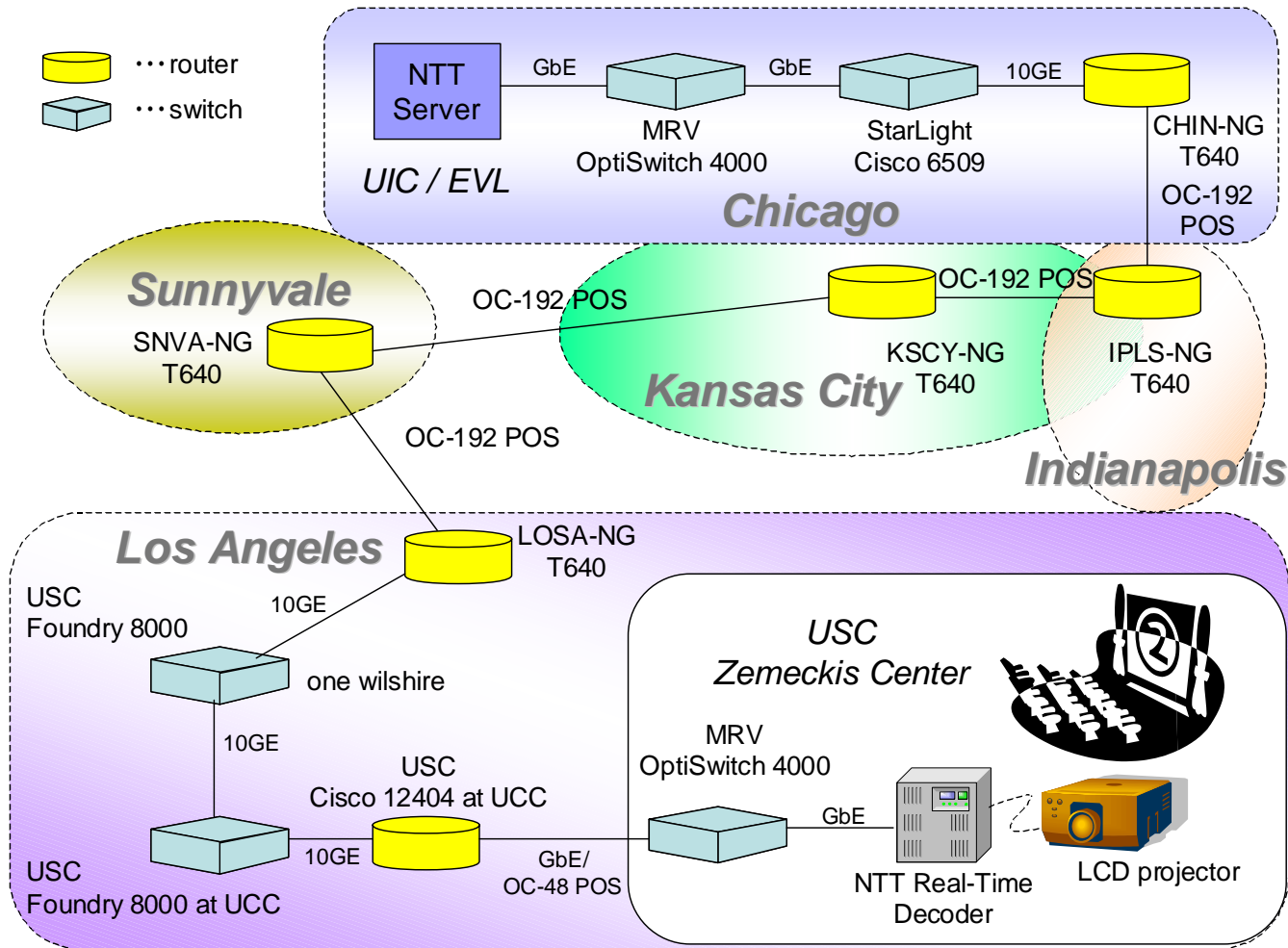
National Film Theater



CineCitta in Rome



IP Stream Transfer Experiment over Internet 2 Testbed



300 Mb/s transmission over 3000 km IP network from Chicago to Los Angeles (RTT=59msec, multi TCP stream transfer)

DCI Standard will be announced soon.

DCDM (Digital Cinema Distribution Master)

4096x2160 = 8.847 M Pixels

Bit Depth: 12bits

Frame rate: 24 frame/s



Demonstration of Live Concert of Orchestra Conducted by Seiji Ozawa



NTT Musashino R&D Center

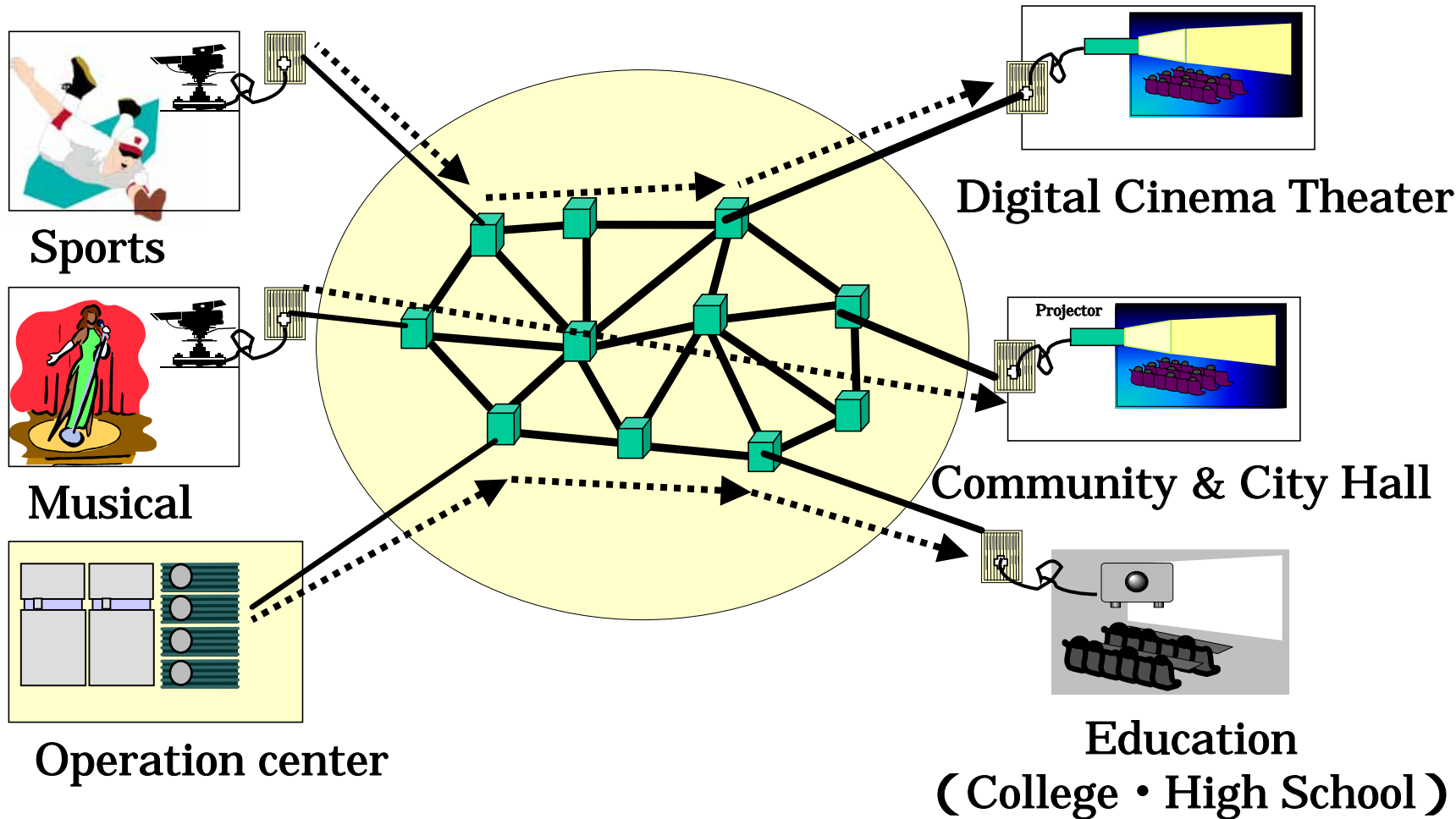


“PaletteTown” at Tokyo bay area

NTT JVC Olympus jointly sponsored the event



An image of high definition contents distribution over broadband networks



Thank you for your attention !



DCCJ

NPO Digital Cinema
Consortium of Japan

特定非営利活動法人
デジタルシネマ・コンソーシアム

[English](#)



...welcome...

<http://www12.ocn.ne.jp/~d-cinema/>

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