Setting up CARNet Media on Demand

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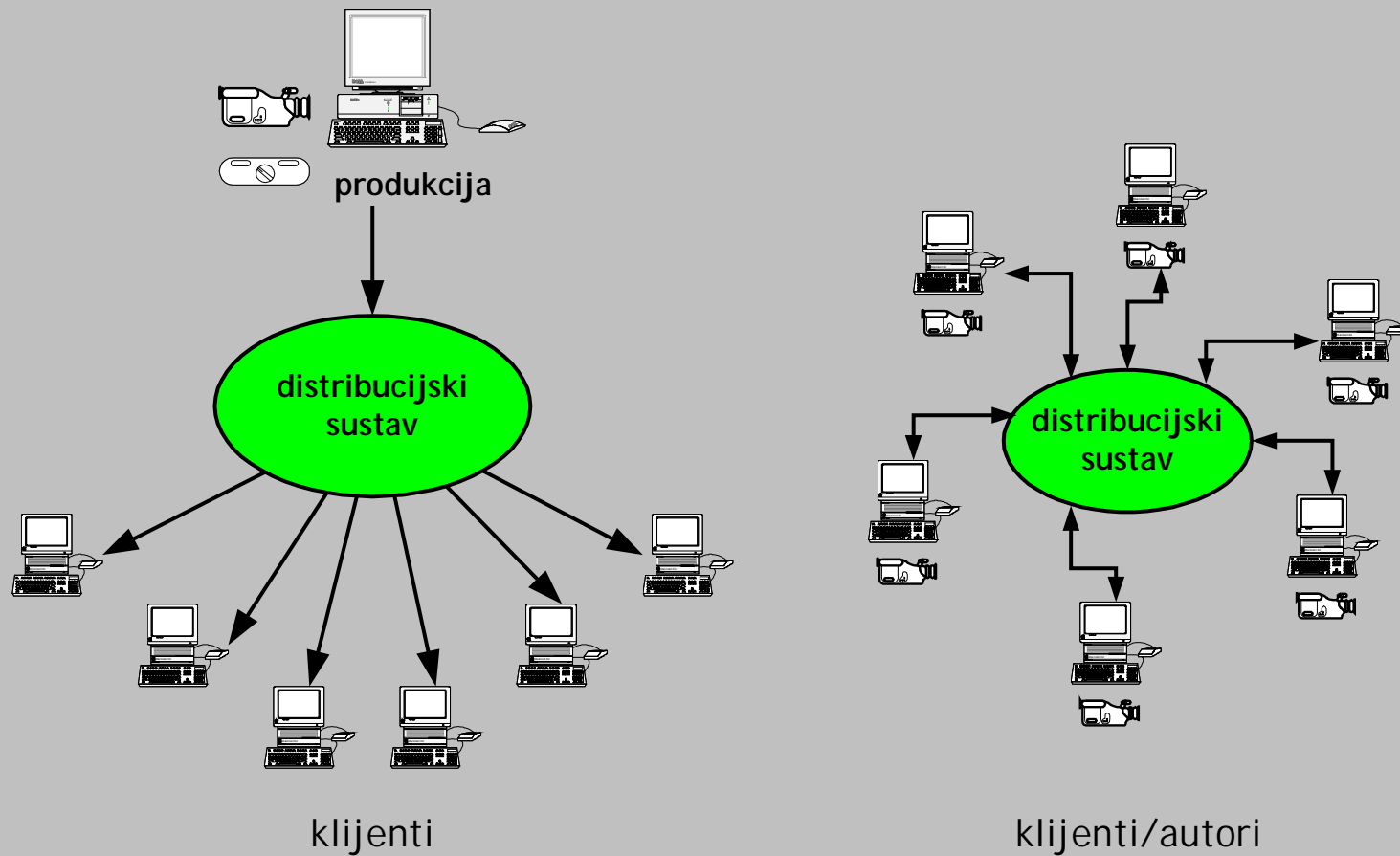
CARNet R&D Lab

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so obvious…

- more powerful computers and faster networks enable creation and usage of networked multimedia services
- introduction of DV appliances and tools enable almost everyone to produce their own content
- everyone is both author and audience

so obvious…

produkcija

distribucijski sustav

distribucijski sustav

klijenti

klijenti/autori

not so obvious…

- "market pull" vs. "technology push"
- "technology push" so far
- it is necessary to provide technology and tools to community so it would see the benefits of multimedia
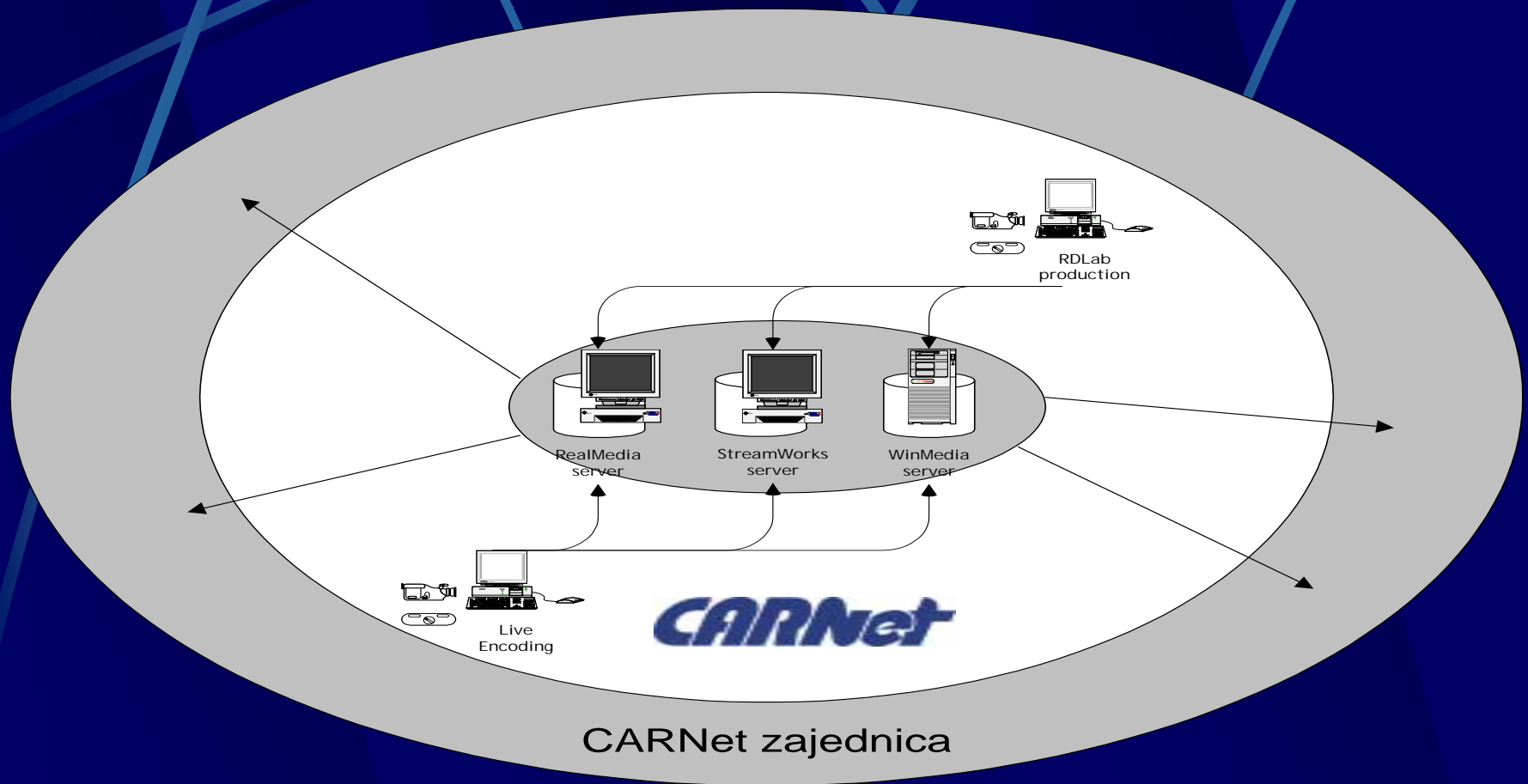- create content so community can see that it can create content itself

...in the beginning...

- 1994 – Animafest 94 as first big event
- 1996 – Animafest 96 as The Event
- 1997 – first Internet streaming
- 1998 – high-quality streaming
- 1998,1999, 2000 – Brucošijada FER-a
- 1998 – Holy Father, CEI summit
- 1999, 2000, 2001 - CUC

...in the beginning...

1994	1995	1996	1997	1998	1999	2000	2001	
RDLab						CARNet MoD		nositelj
download		progressive dl		streaming		streaming + multicast		usluge
MPEG-1		MPEG-1, QT, AVI		RealMedia MPEG-1		RealMedia, WinMedia MPEG-1, QuickTime		arhitekture
FAST FPS60				Matrox Marvel, Array VideoOne		Osprey 500WM	Matrox RT 2500	produkcija
1994	1995	1996	1997	1998	1999	2000	2001	

aktivnosti:

- Animafest 94
- INFO 95
- Animafest 96
- INFO 96
- ConTEL 97
- CEENet 97
- INFO 97
- Posjet Sv.Oca
- Animafest 98
- Brucosijada FER 98
- CEI 98
- Telemedicina
- CUC 1999
- Brucosijada FER 99
- Hiperglikemija
- CUC 2000
- Brucosijada FER 00
- Hiperbarija
- CUC 2001
- Brucosijada FER 01

...in the beginning...

RDLab
production

RealMedia
server

StreamWorks
server

WinMedia
server

CARNet

Live
Encoding

CARNet zajednica

problems

- separate media servers (WINM, SWRK, REAL) for various content
- servers "hidden" from potential users
- servers "hidden" from authors
- no serious production capabilities (best-effort service of R&D Lab)
- no knowledge accumulation

and main problem was...

lack of INTEGRATED and COMPLETE solutions for handling all multimedia applications and services in CARNet

…idea…

- create services (in CARNet definition of service) which would handle and coordinate all multimedia activities
- create knowledge base and competence pool for multimedia technologies and applications
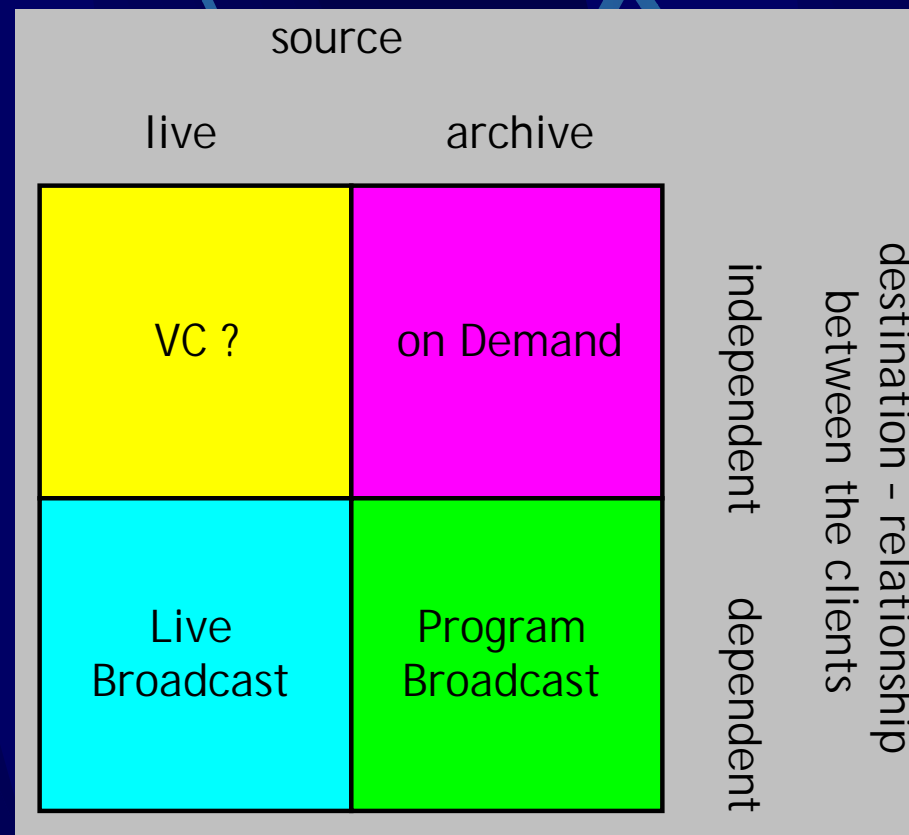- provide support for others in CARNet community

mm infrastructure?

- includes all elements required for support of multimedia services
- includes both organizational and infrastructural elements which enable multimedia services
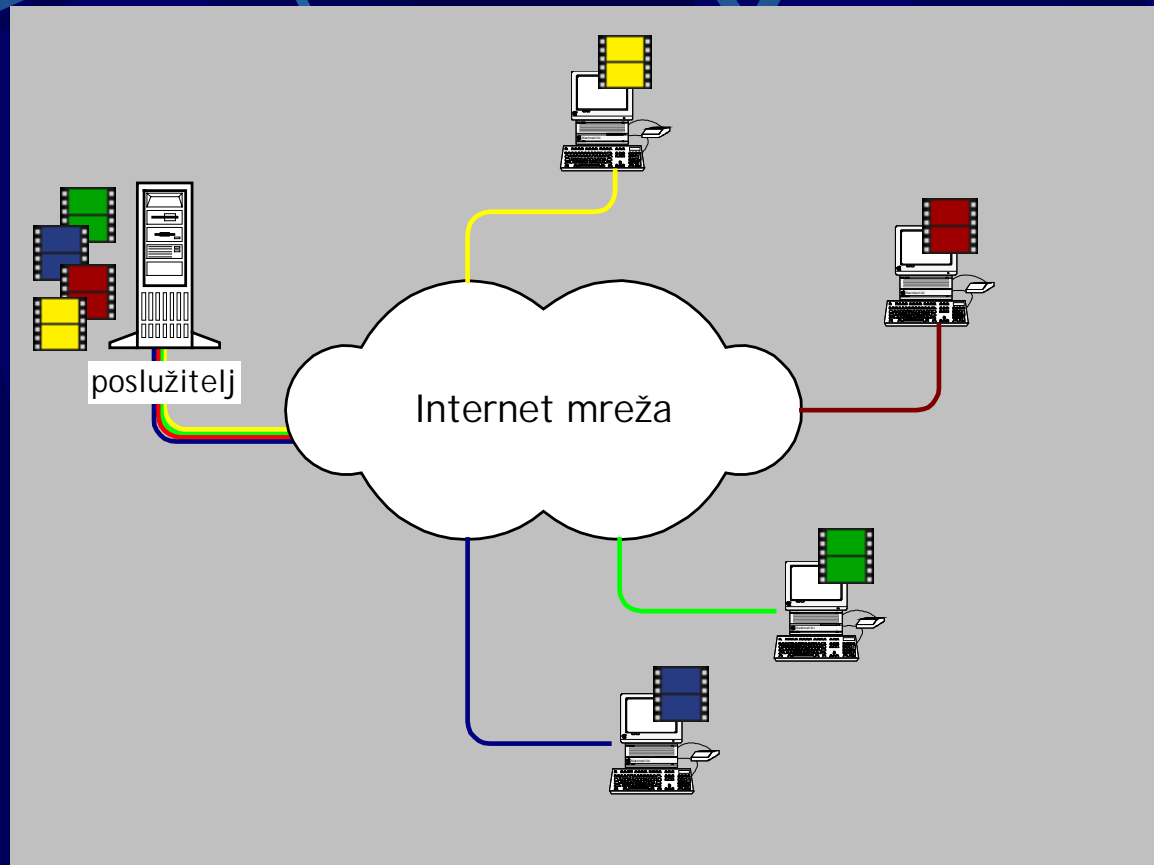- includes knowledge base and competence pool

mm infra: network

- simple: capacity and multicast
- requirements for faster connections, especially in access networks
- support for increased traffic in backbone network
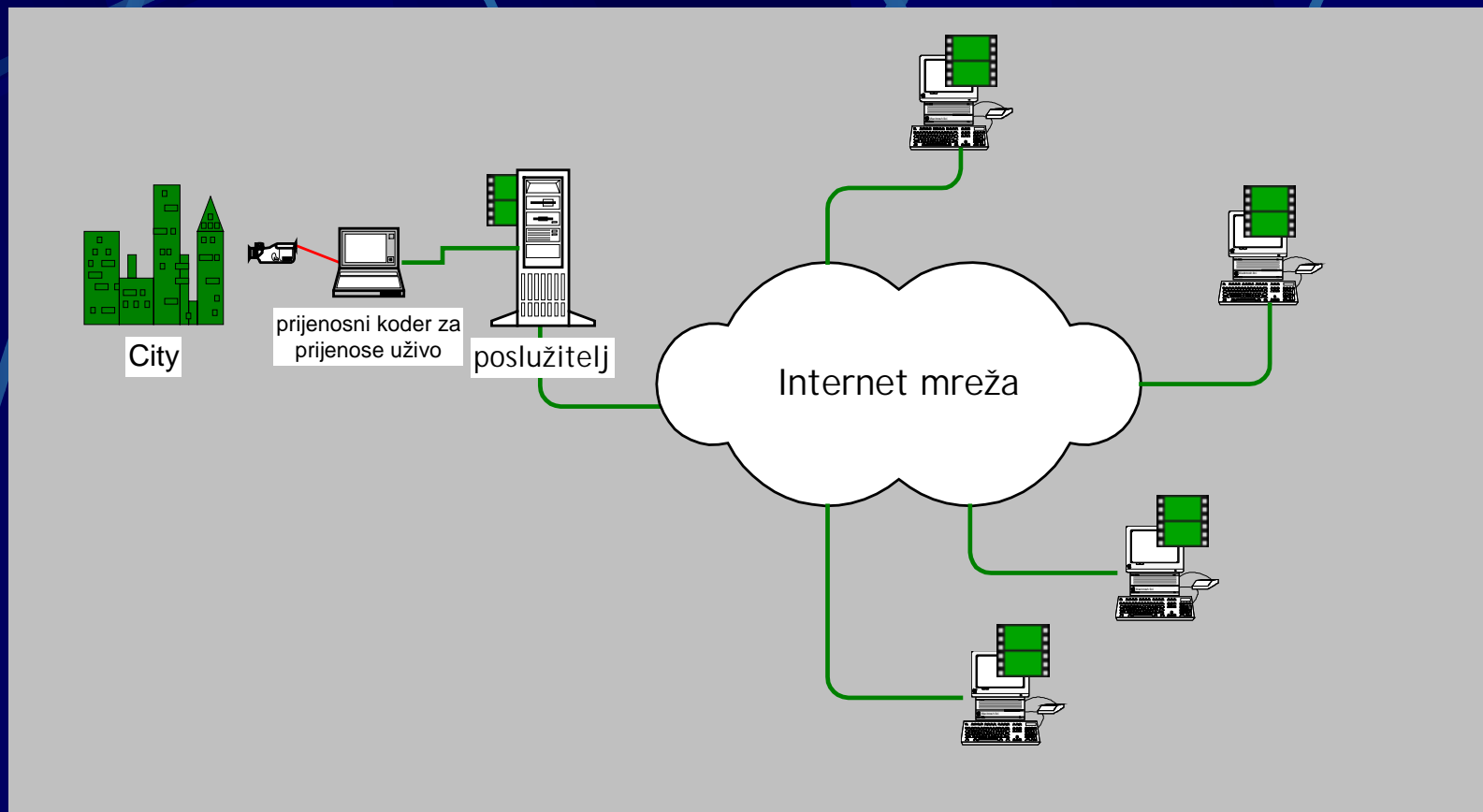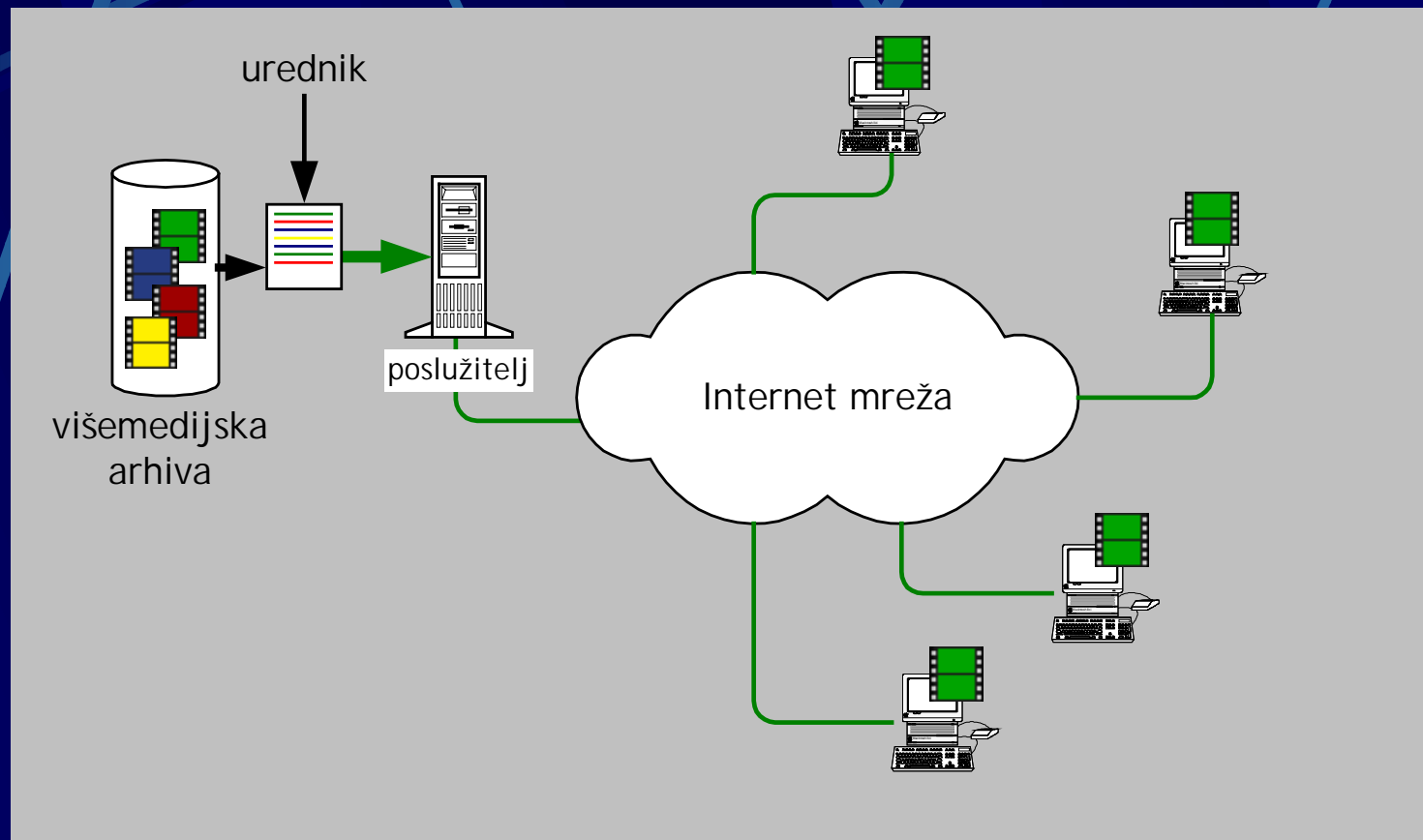- support for multicast for some mm services

mm infra: applications

on Demand

poslužitelj

Internet mreža

Live broadcast

City

prijenosni koder za
prijenose uživo

poslužitelj

Internet mreža

Program Broadcast

mm infra: services

- production services – capable of both NLE and RTE (non-Linear editing, and RealTime encoding).

- multimedia archives and distribution – server and storage systems

- knowledge base, consulting and education

solution

CARNet MoD

&

CARNet TV

CARNet MoD

- Media on Demand project
- creates multimedia infrastructure within CARNet community
- CARNet MoD/TV server system
- MoD production studio
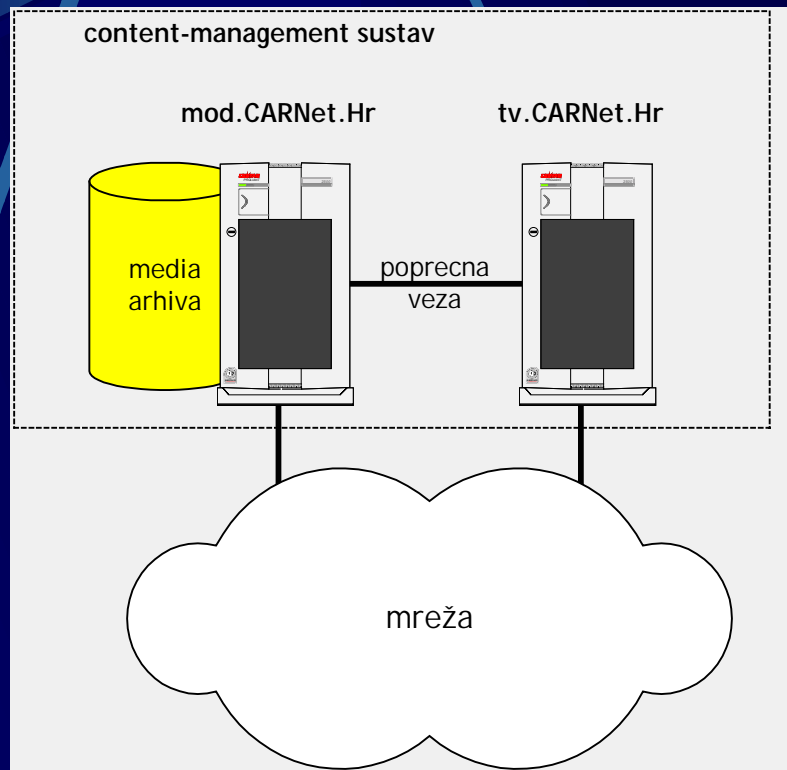- knowledge base & consulting

MoD/TV server system

- distribution of multimedia content
- media archive (170GB)
- supports: WinMedia, RealMedia, QuickTime, MPEG-1 content
- content-management system
- open for all content-authors within CARNet community

MoD/TV content mgt

- XML based metadata model for storing descriptions about multimedia content on the MoD/TV server system

- tools enabling easy adding and managing content on the server

- tools enabling administrator to control and manage server system
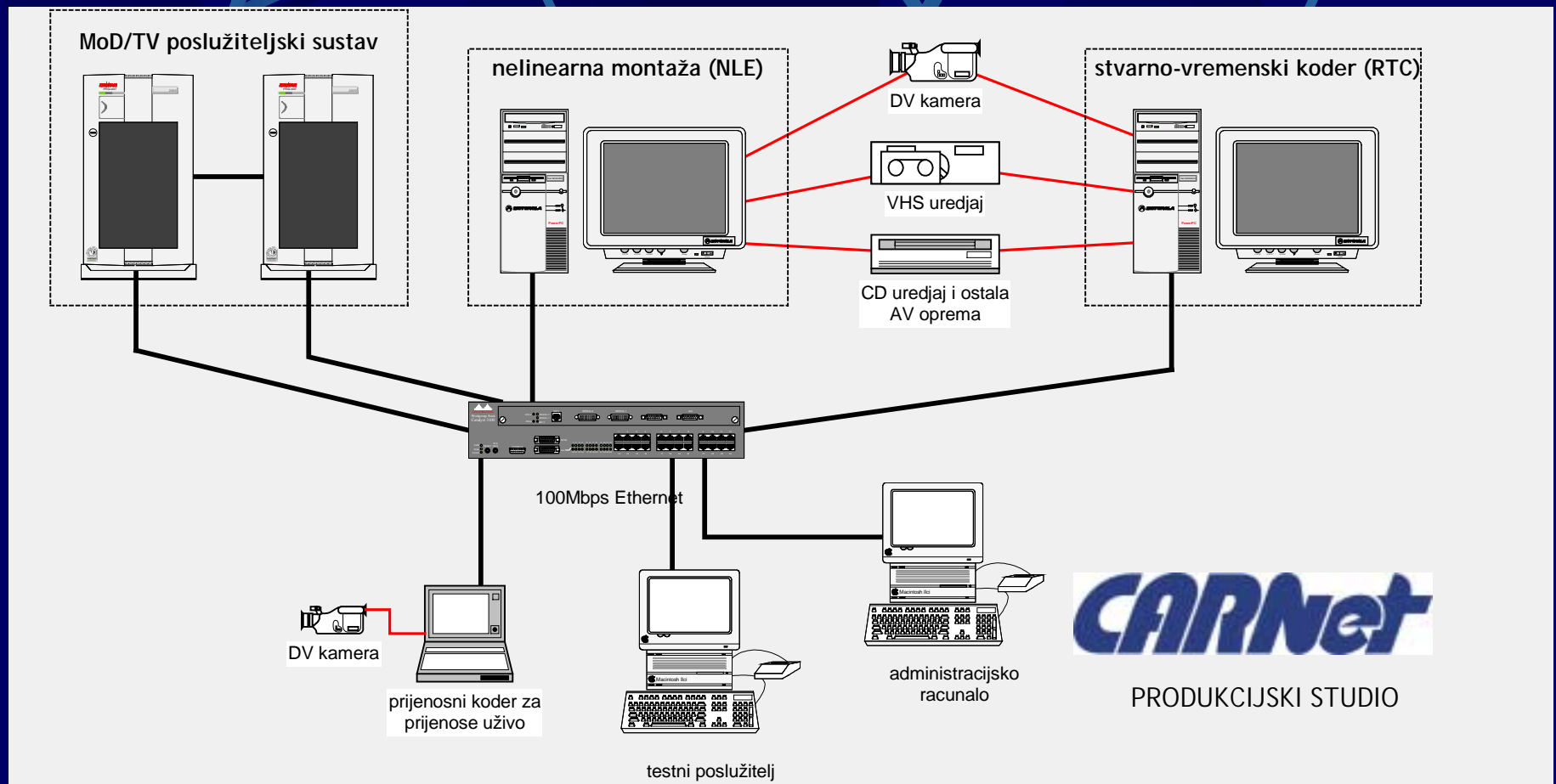
MoD/TV server system

MoD production studio

- capable of semi-professional production on DV
- non-Linear editing system (NLE) around Matrox RT2500
- RealTime encoder around Viewcast Osprey WM500
- open for partners within CARNet community

MoD production studio

MoD/TV poslužiteljski sustav

nelinearna montaža (NLE)

DV kamera

stvarno-vremenski koder (RTC)

VHS uredjaj

CD uredjaj i ostala AV oprema

100Mbps Ethernet

DV kamera

prijenosni koder za prijenose uživo

testni poslužitelj

administracijsko racunalo

CARNet

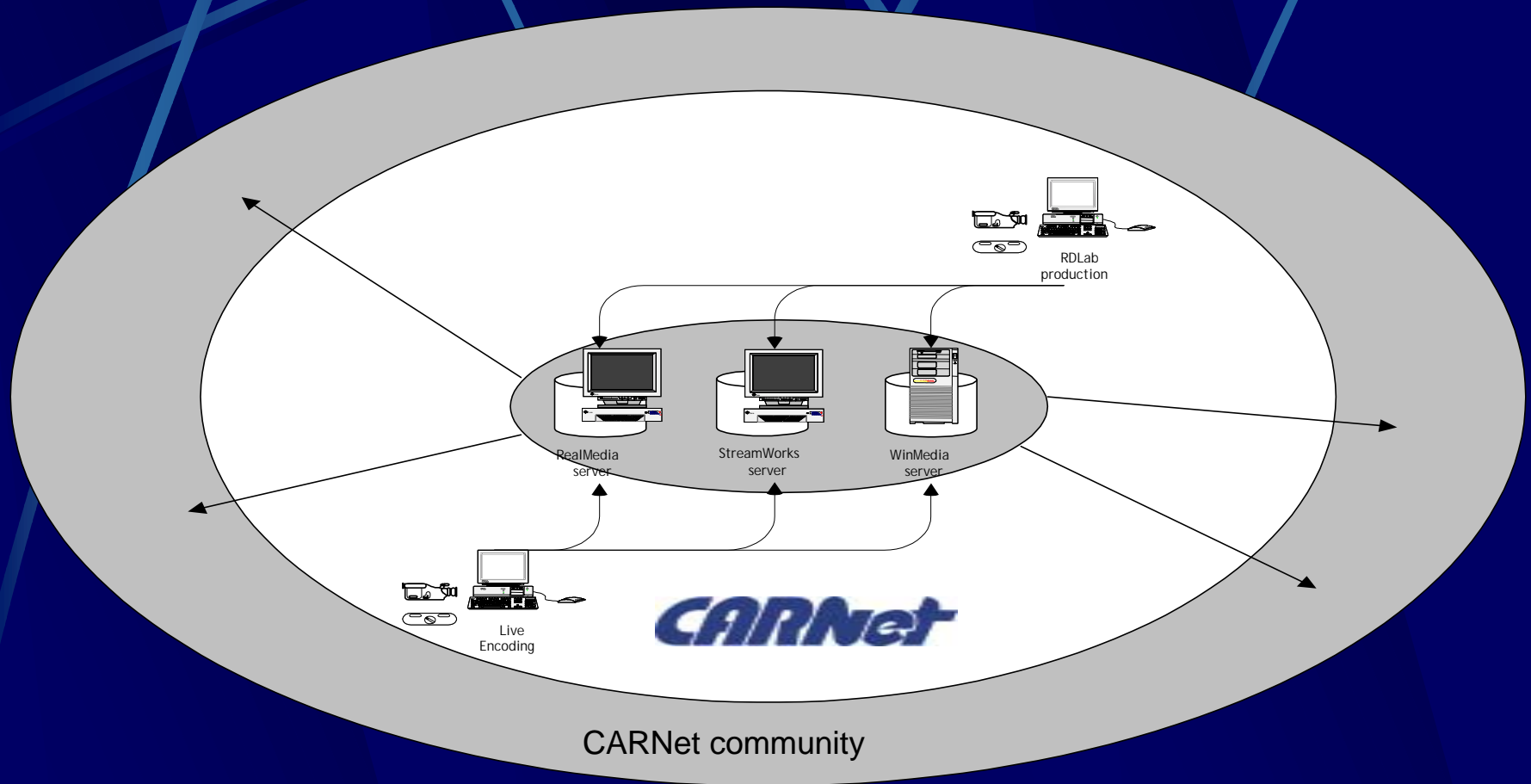PRODUKCIJSKI STUDIO
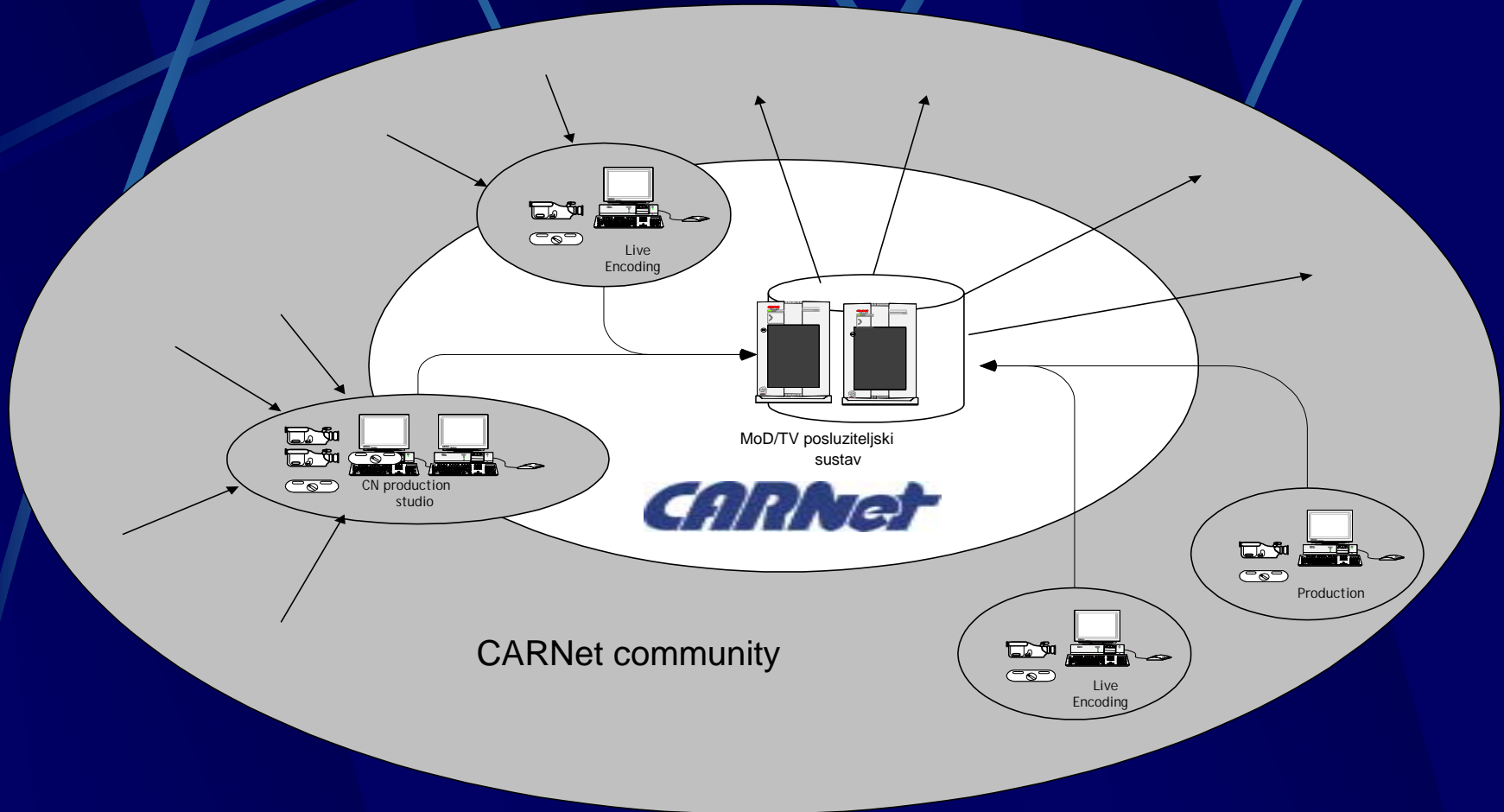
MoD production studio

CARNet TV

- starting up now...
- will provide organizational help for content-creation
- will aim to create and support creation of content about CARNet and CARNet community
- will need your help :o)

to summarize

...in the beginning...

RDLab
production

RealMedia
server

StreamWorks
server

WinMedia
server

Live
Encoding

CARNet

CARNet community

…quite soon…

Live Encoding

CN production studio

MoD/TV posluziteljski sustav

CARNet

CARNet community

Production

Live Encoding

and we will offer you...

space & distribution

- interesting content (we hope so) about CARNet, community and education
- anyone from CARNet community will be able to publish their own (THEIR OWN) content on the MoD/TV server
- we're still discussing access rules and right management model

production & support

- MoD production studio open for all within CARNet community (we'll do production for you – within some limits)

- support for creation of YOUR OWN production systems (advice and specifications – maybe bit more)

how are we doing?

so far…

- MoD/TV server system is operative, not yet fully open
- MoD studio in construction (RTE working, waiting for NLE)
- MoD consulting – gathering knowledge and experience in production and production system

guided tours

server today
http://mod.CARNet.Hr

content-management

to conclude...

- we want to improve level of multimedia services in CARNet
- we want to encourage others to create content and share it with others
- give a big "technology push" (and "organizational push") with CARNet MoD and TV projects and services

invitation…

(future of) multimedia services in CARNet

wednesday

15:00-17:00

(black room)

recommended reading

Docs section on MoD server
http://mod.CARNet.Hr/docs/

thank you…

Q & A