

Head in the Clouds

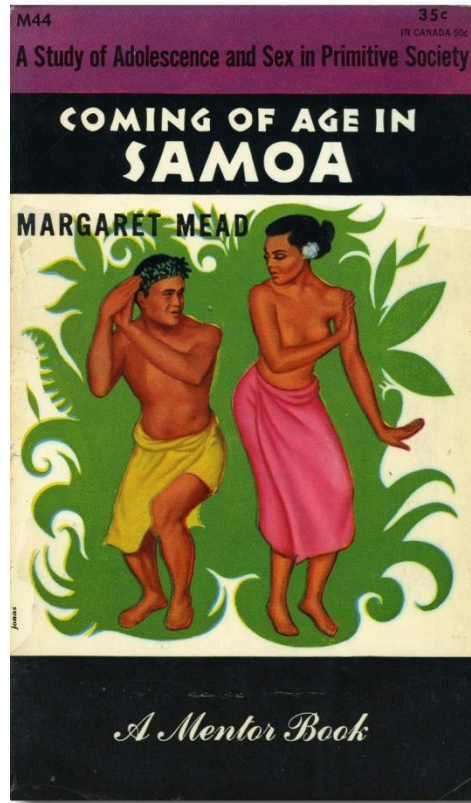
A look at options for desktop and mobile videoconferencing



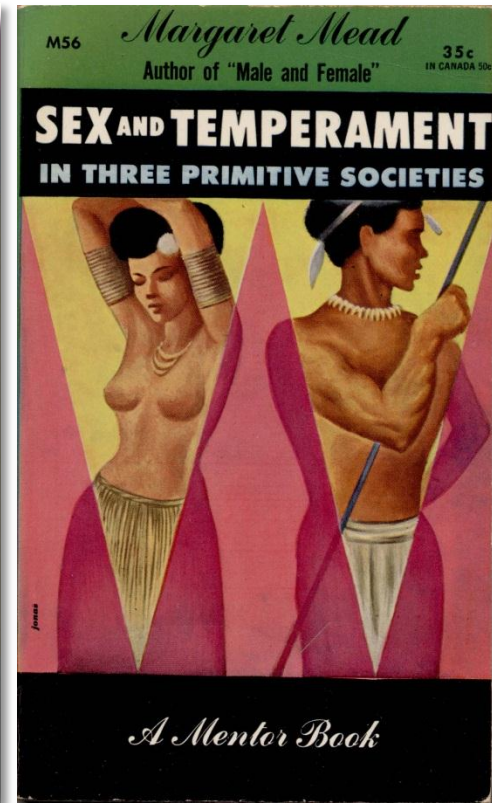
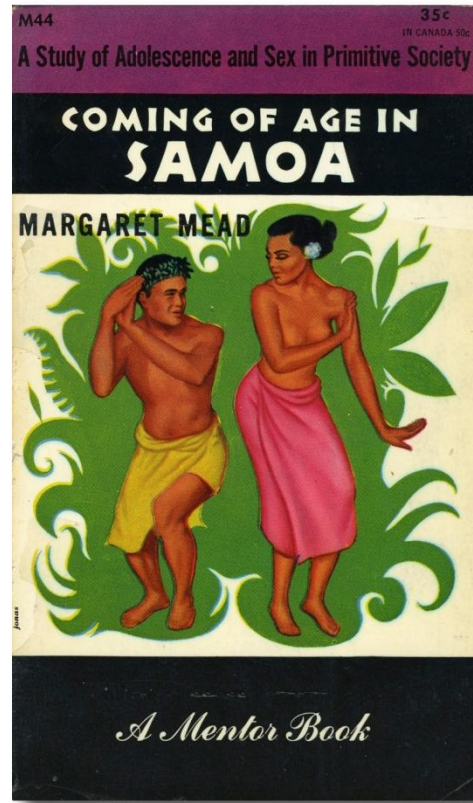
Garret Spargo
University of Chicago



Margaret Mead
Anthropologist
1901-1978



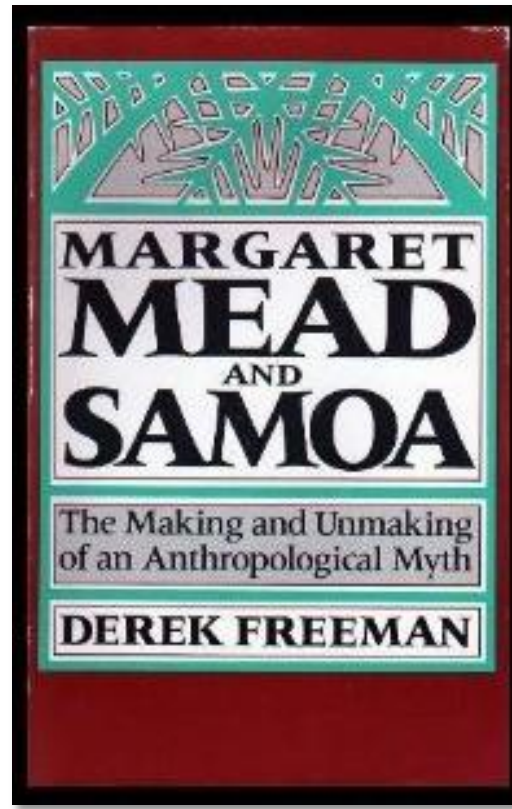
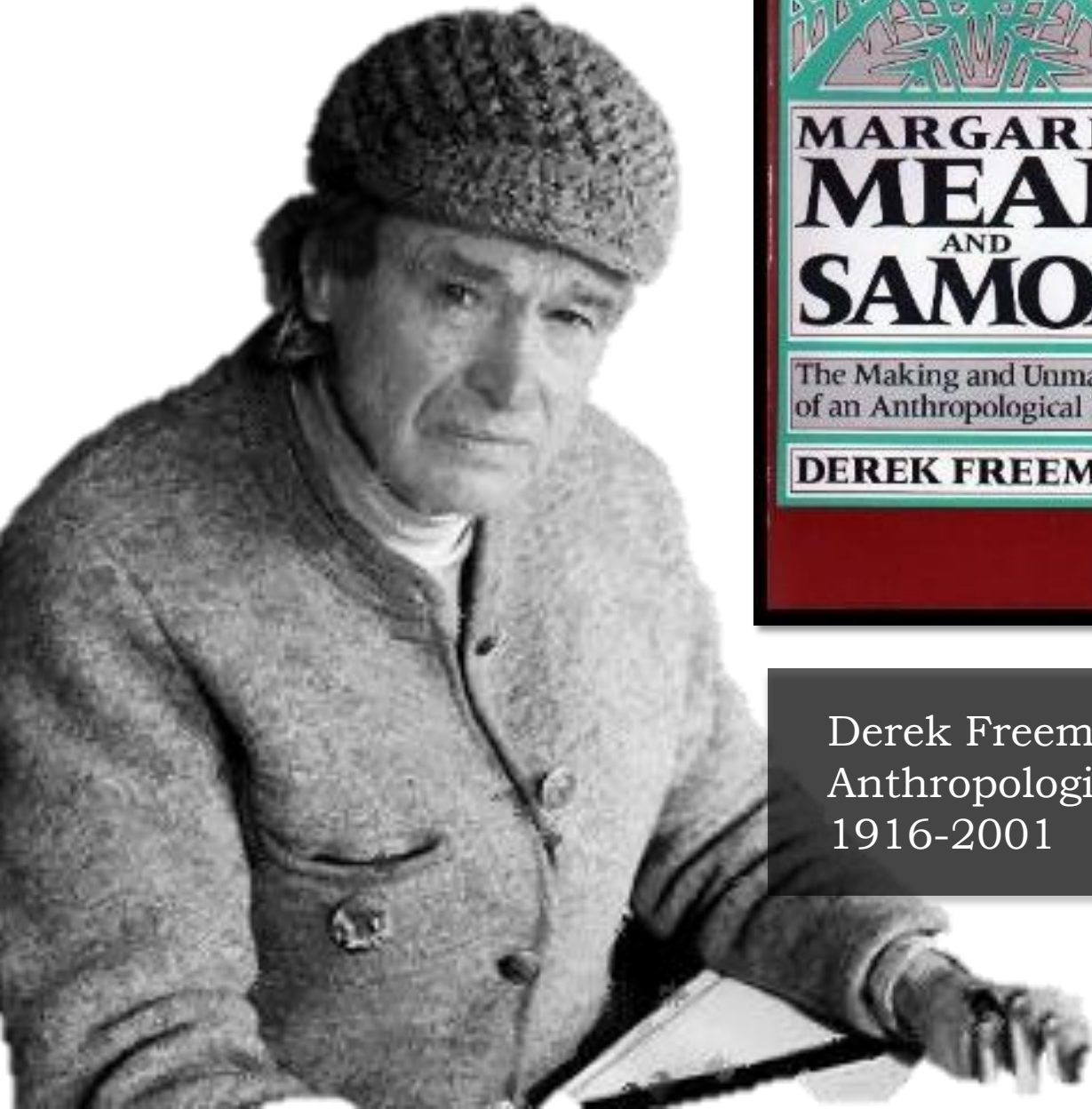
Margaret Mead
Anthropologist
1901-1978



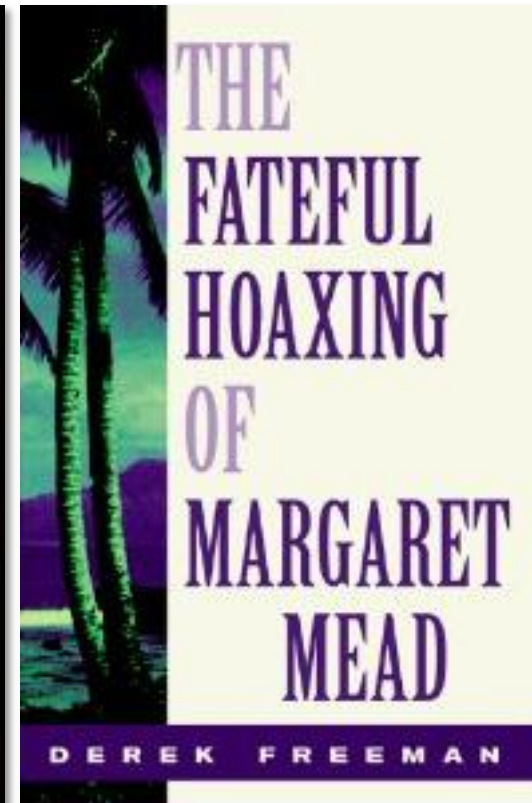
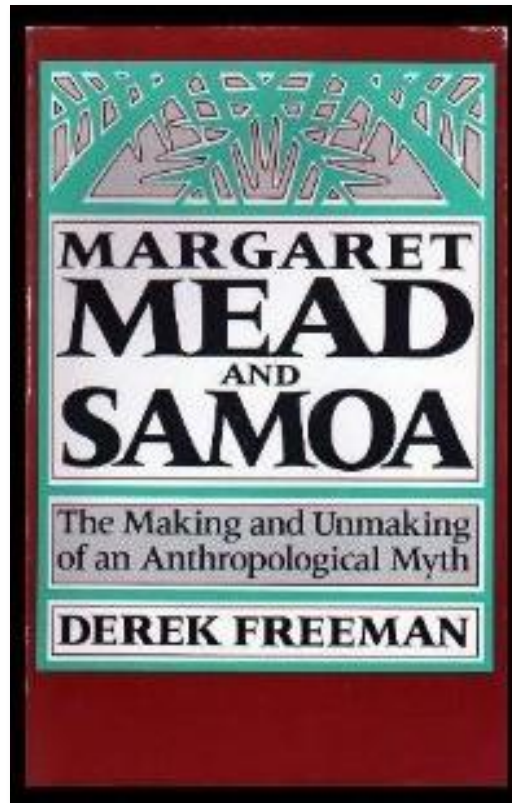
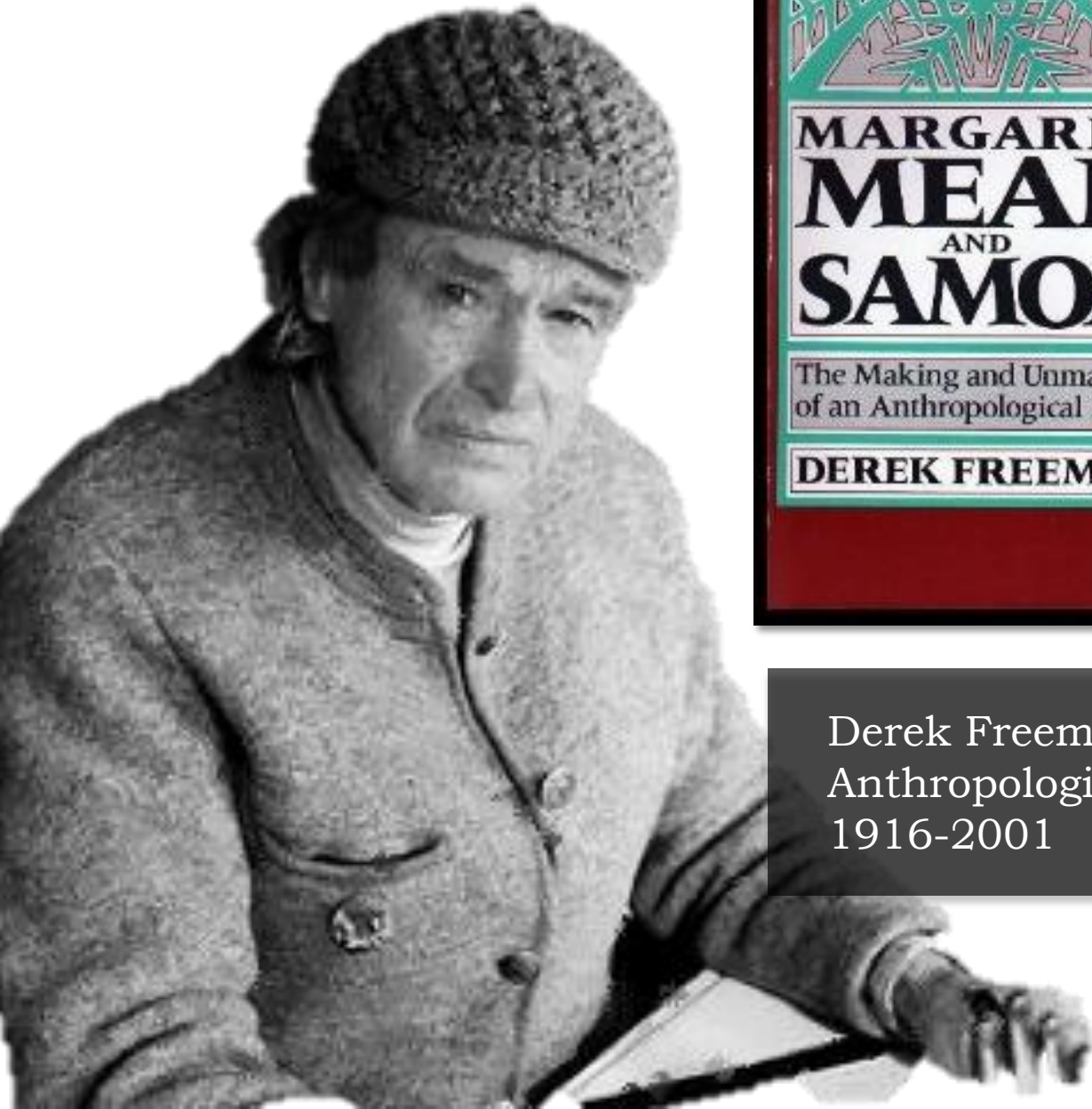
Margaret Mead
Anthropologist
1901-1978



Derek Freeman
Anthropologist
1916-2001



Derek Freeman
Anthropologist
1916-2001



Derek Freeman
Anthropologist
1916-2001



Was her experience so different from that of Derek Freeman?



Mead-Freeman Controversy
(and Mead-Gewertz)
(and Mead-Friedan)



A top-down view of a desk setup on an orange background. In the upper right, a white ceramic cup with a black leaf-like pattern is filled with dark coffee. A black pencil with a blue band lies horizontally across the top left. Below it, a small white eraser sits on the orange surface. In the center, a silver pencil sharpener is placed on a stack of white papers. Another black pencil is positioned vertically on the right side of the papers. A dark grey semi-transparent box is overlaid on the bottom left of the papers, containing white text.

Where are we going today?

- Terminology
- Infrastructure
- Things Get Cloudy



Multimedia Call Control

Session Initiation Protocol (SIP)
H.323

Proprietary (Consumer-Oriented)



Video Standards

H.264 / 263 / 261

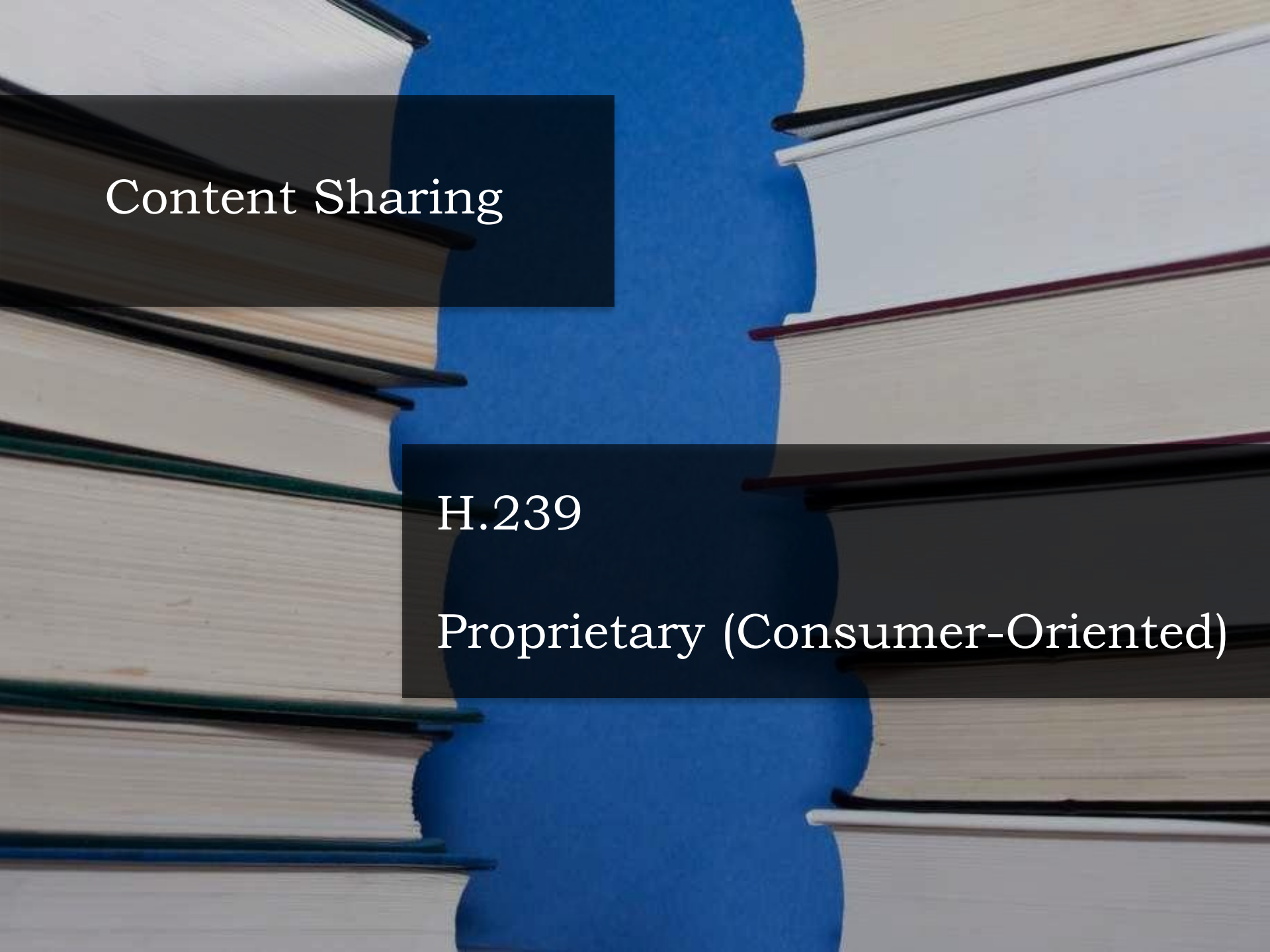
Scalable Video Coding (Annex G)



Audio Standards

G.711 / 722 / 729

SILK & iLBC

The background of the slide features two stacks of books on either side, with their spines and pages visible. A large, blue, wavy graphic element is positioned in the center, partially overlapping the books. Two dark grey rectangular boxes are overlaid on the blue graphic, containing white text.

Content Sharing

H.239

Proprietary (Consumer-Oriented)



Security

Advanced Encryption Standard
Transport Layer Security
HTTPS



Firewall and NAT Traversal

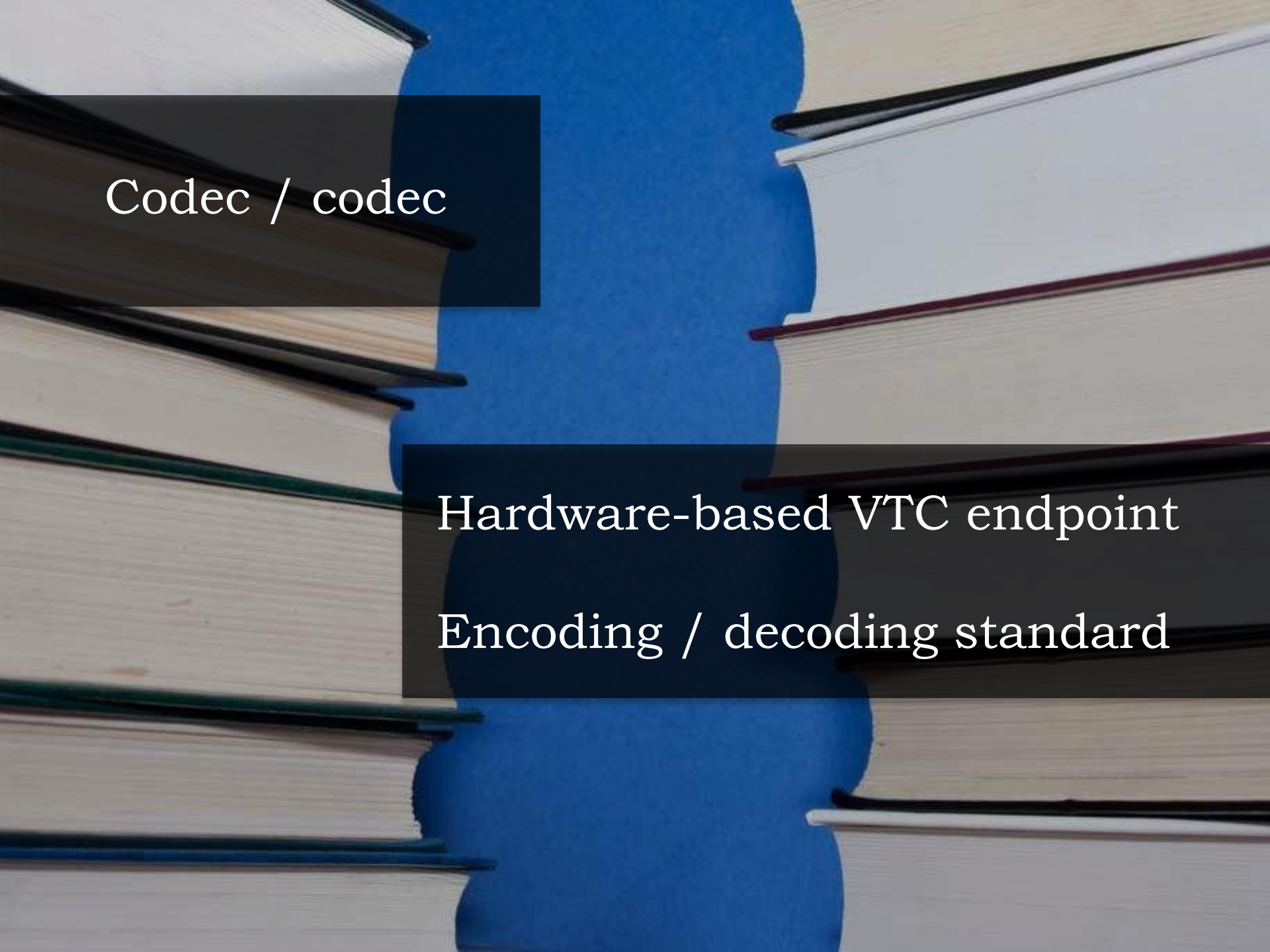
H.460

STUN, TURN, ICE, etc.



Endpoint

An “addressable” hardware or software interface that is used in a videoconferencing session



Codec / codec

Hardware-based VTC endpoint

Encoding / decoding standard



Bridge

Multipoint Control Unit (MCU)

Mixing audio, switching video



Gateway

Device that facilitates interoperability with other systems and standards



Gatekeeper

Call Admission Control
Address translation
Traffic controller

The background features a stack of books on both the left and right sides, with their pages visible. A large, irregular blue shape is cut out from the center of the image, creating a window for the text.

Proxy & Firewall

Intermediary

Barrier



Authentication Server

Credentialing system

Internal or external



Communications Server

Video router, internal or external
Combined or standalone

The background of the slide features two stacks of books, one on the left and one on the right, with their spines facing each other. In the center, there is a large, irregular blue shape that resembles a cloud or a splash of paint. Two dark grey rectangular boxes are overlaid on the image: one in the upper left and one in the lower center.

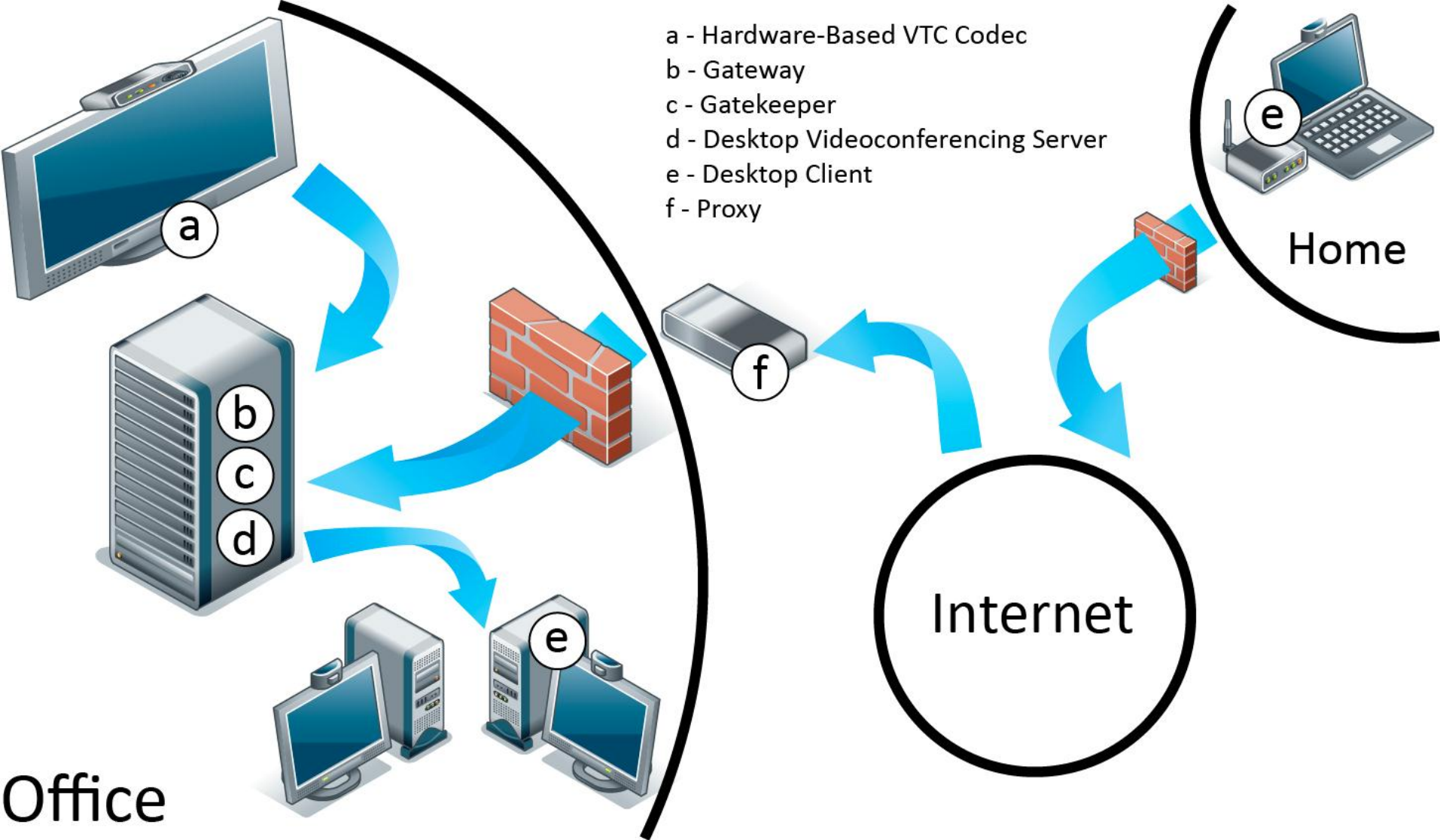
Internet / Cloud

Publicly accessible “network of networks” that we know and love

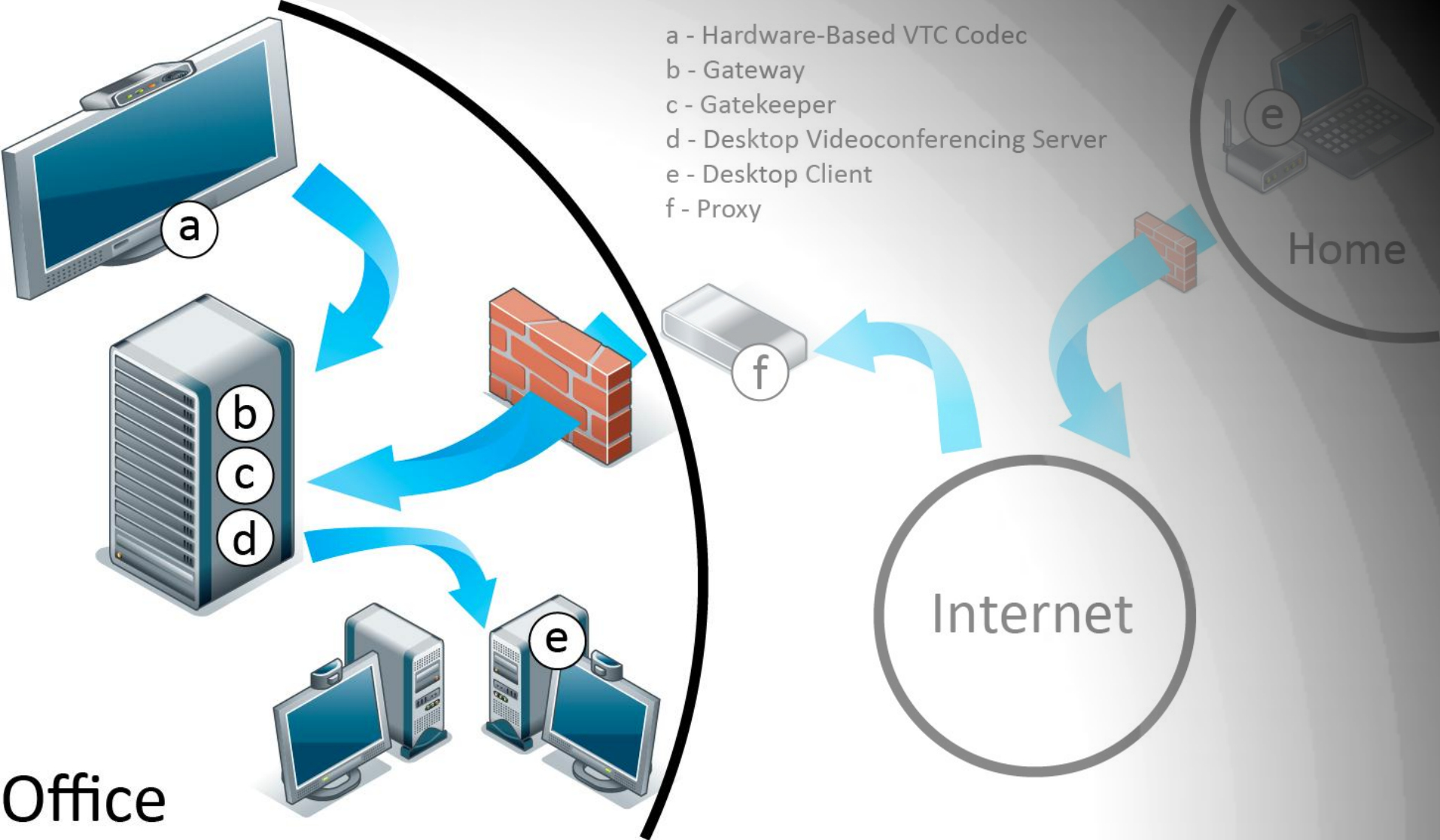
The Same Dang Thing!

Desktop Videoconferencing



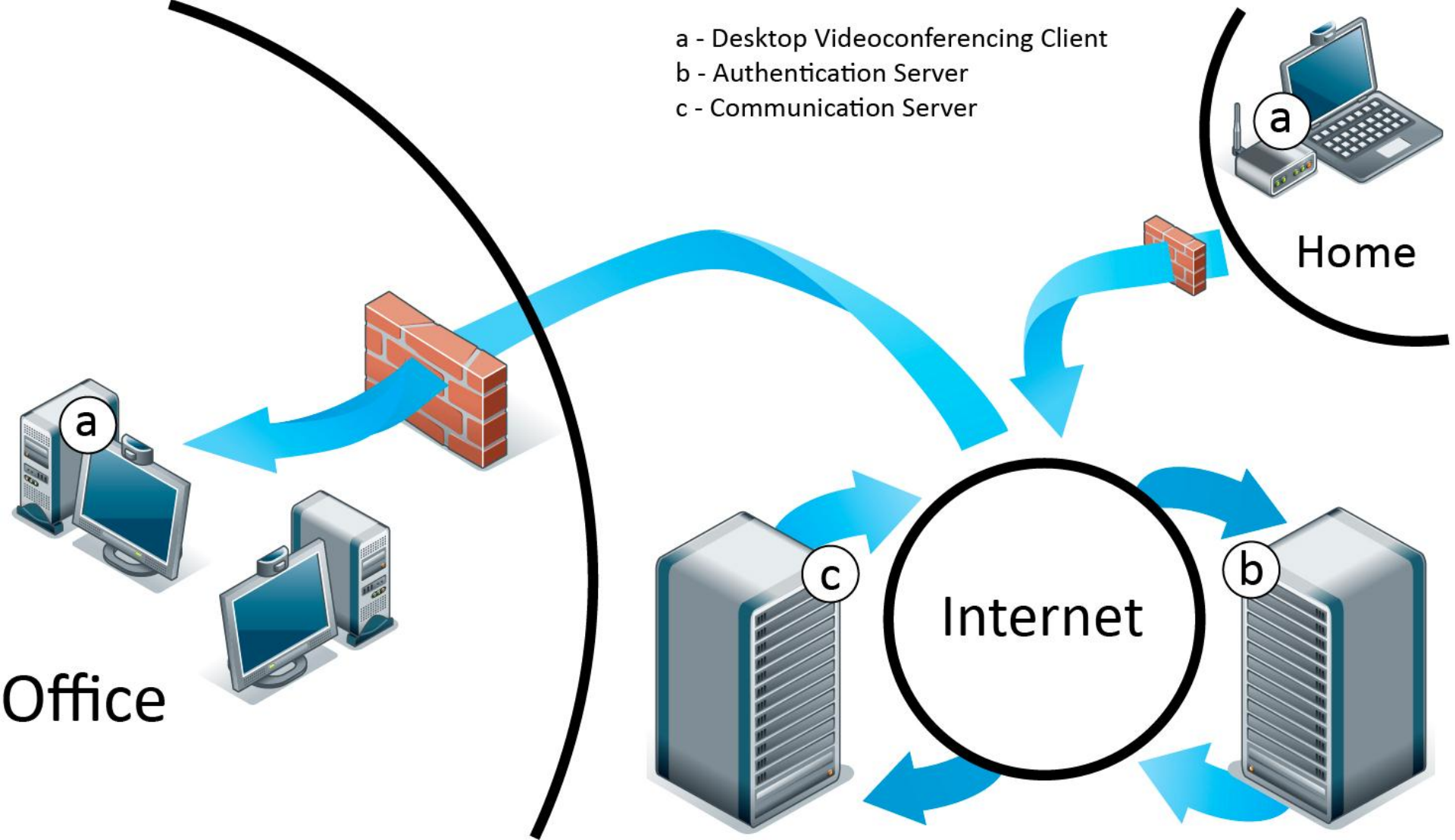


Standards-Based
Infrastructure



Standards-Based
Infrastructure

- a - Desktop Videoconferencing Client
- b - Authentication Server
- c - Communication Server



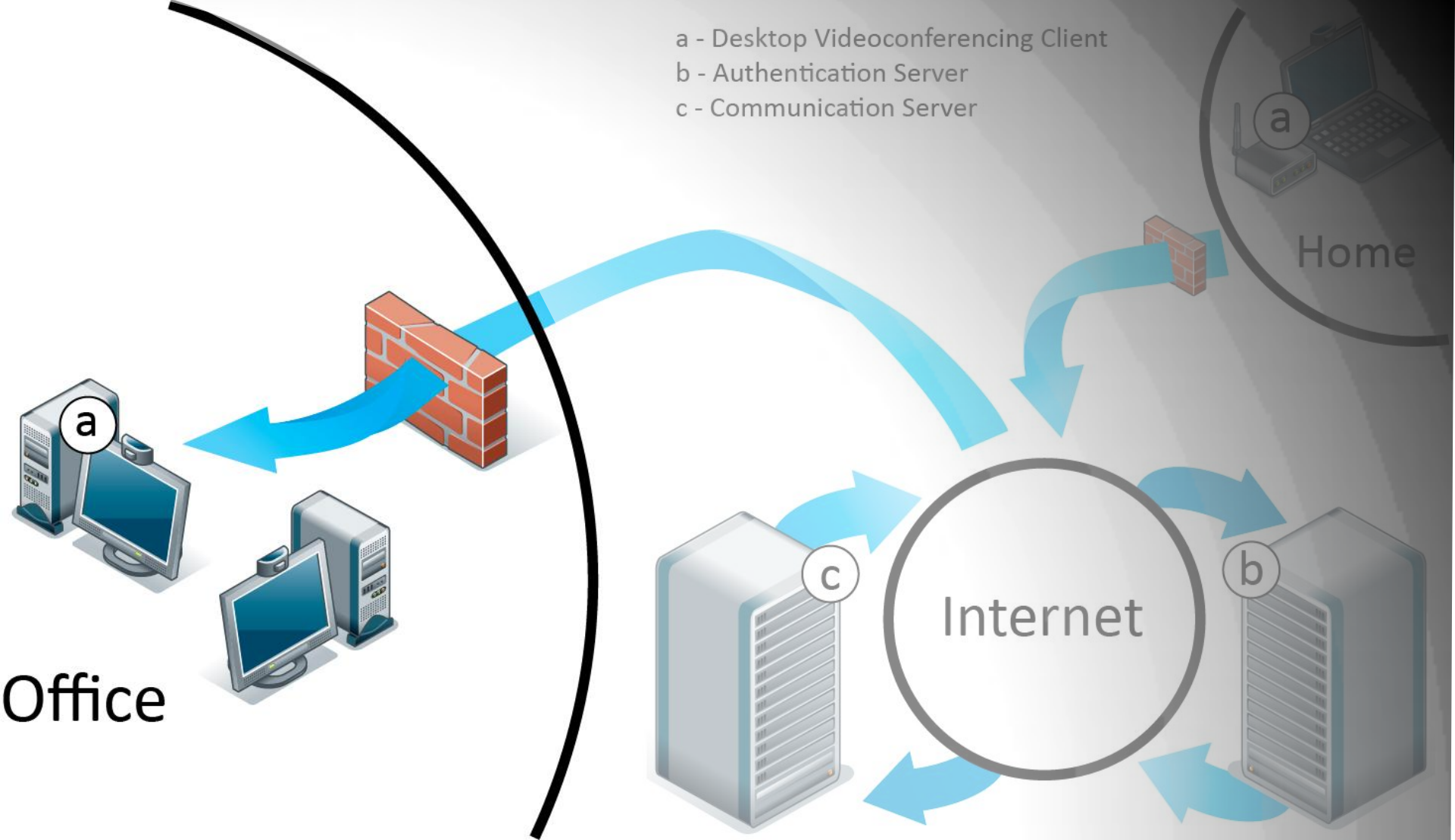
Office

Home

Internet

Consumer-Oriented Infrastructure

- a - Desktop Videoconferencing Client
- b - Authentication Server
- c - Communication Server



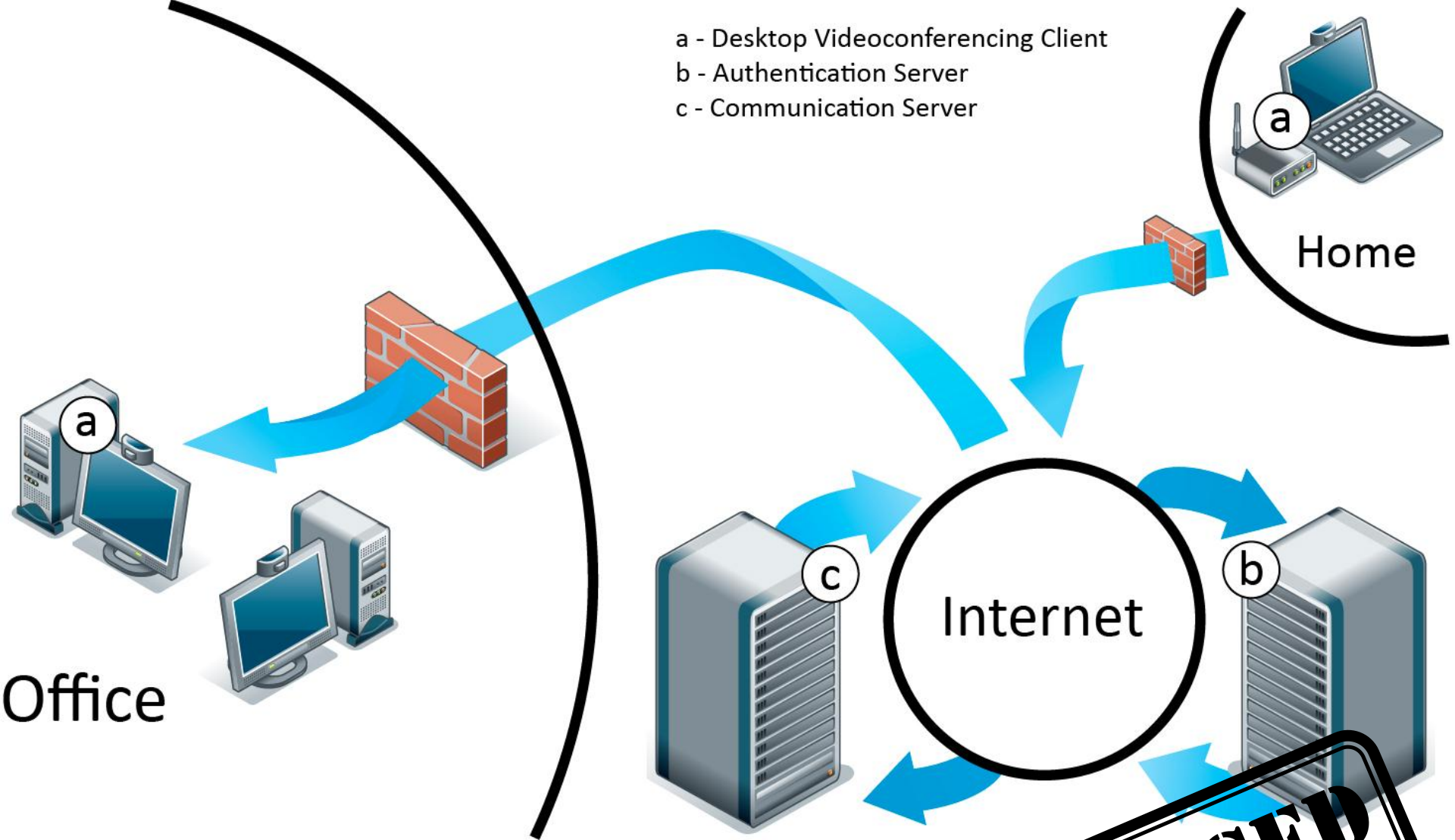
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Internet

Consumer-Oriented Infrastructure

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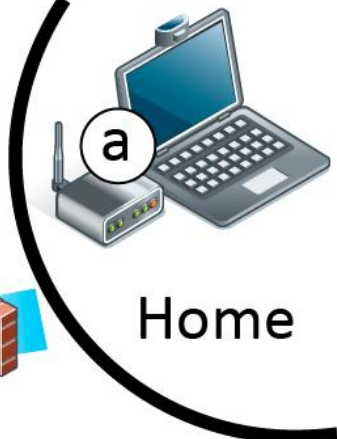
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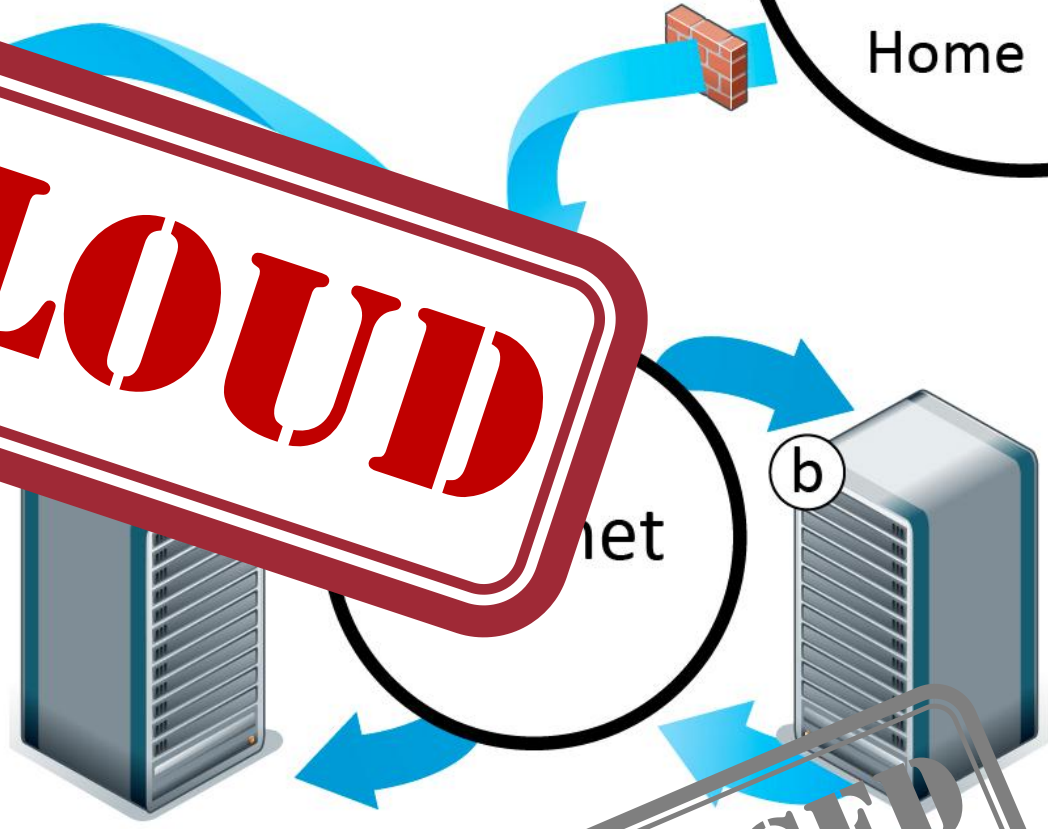
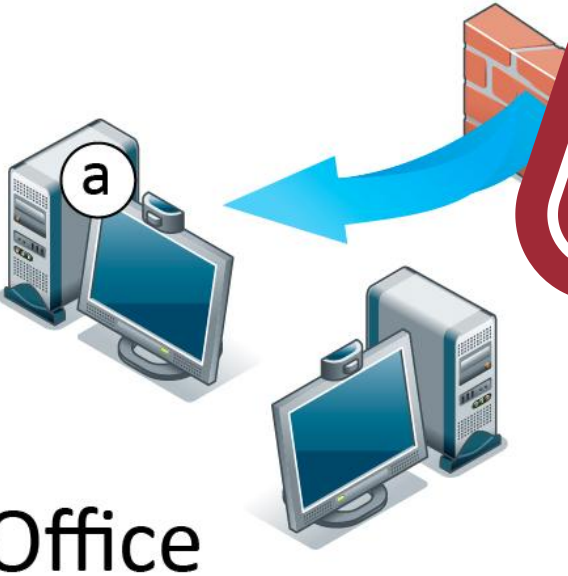
Internet

WEB-BASED
Consumer Oriented
Infrastructure

- a - Desktop Videoconferencing Client
- b - Authentication Server
- c - Communication Server



CLOUD



Consumer-Oriented
Infrastructure

WEB-BASED

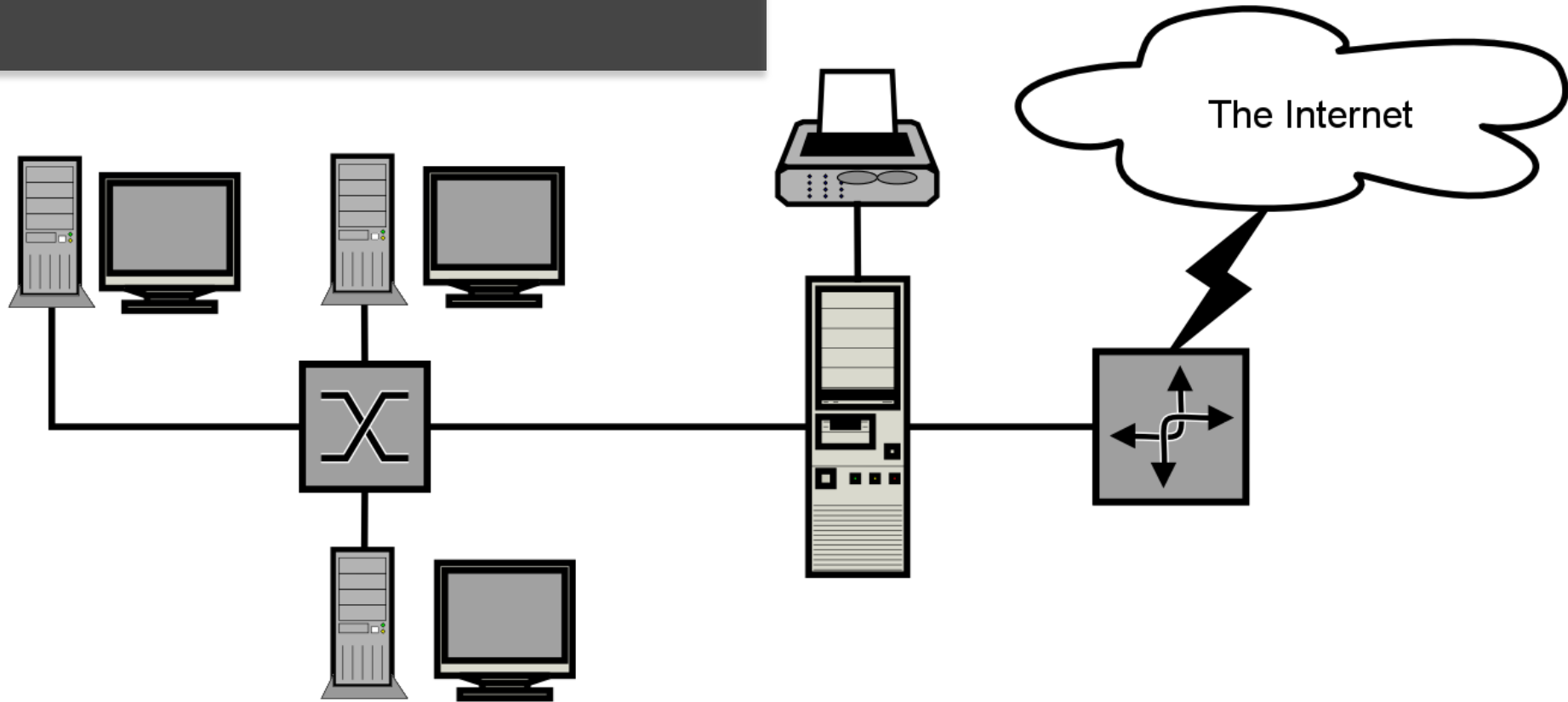
Cloudy With a Chance of Interoperability



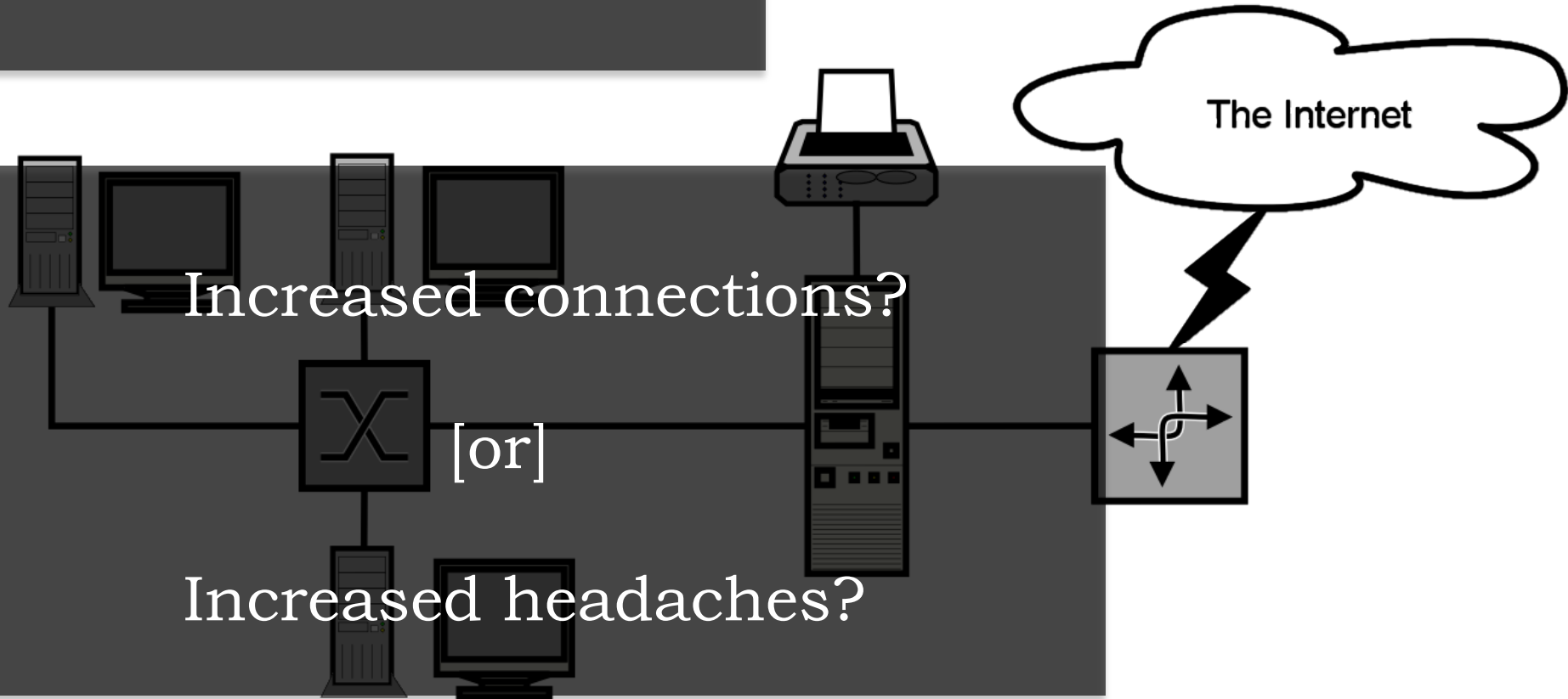
Cloudy With a Chance of Interoperability

Consumer-Oriented
&
Standards-Based?

What Does it Mean?



What Does it Mean?





What Does it Mean?

More pieces working together
Increased connection to patients
Accessible from many locations
Possibility of maintaining control

A close-up, warm-toned photograph of a microscope lens. The lens is the central focus, with its glass elements and metal housing visible. The background is a soft, out-of-focus yellowish-gold color. Two semi-transparent dark grey text boxes are overlaid on the image. The first box is in the upper left, and the second is in the lower right.

What Does it Mean?

Who really owns your data?
Where is the data being stored?
How safe are your patients being?
Where is your staff working from?

HIPAA



MPAA

NOT A LAWYER



HIPAA

<http://www.hhs.gov/ocr/privacy/hipaa/understanding/special/healthit/safeguards.pdf>

The “Informed Consent” Reference



HIPAA

<https://s3.amazonaws.com/public-inspection.federalregister.gov/2013-01073.pdf>

The “Mega Rule” Update



HIPAA

Companies that produce electronic health record (EHR) software, offer billing and transcription applications, **host data in the cloud or provide backup services will be responsible for health information leaks.**

--Doug Pollack, via www.eweek.com



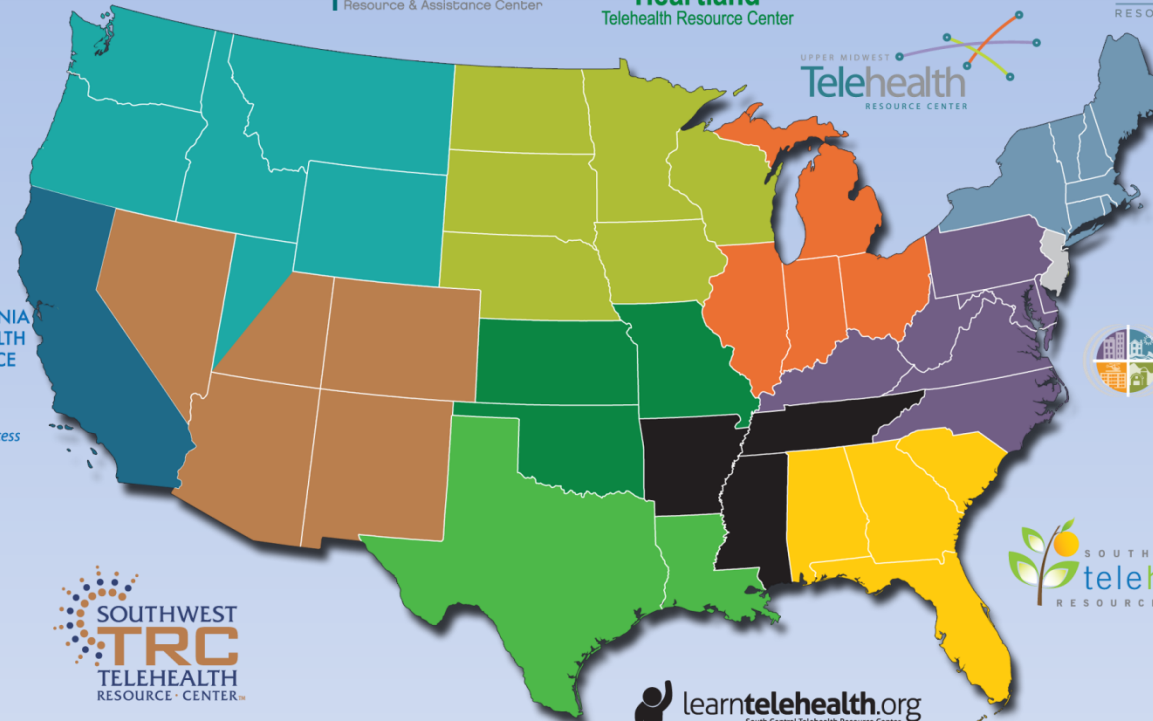
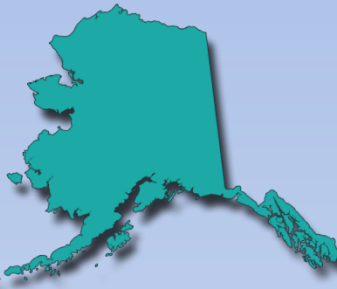
What would Margaret Mead do?

Look at the social interactions
Study the material culture
Understand that things change

telehealthtechnology.org
telehealthresourcecenter.org
cchpca.org



TelehealthResourceCenters.org



NRTRC	gpTRAC	NETRC
CTRC	HTRC	UMTRC
SWTRC	SCTRC	MATRC
PBTRC	TexLa	SETRC

2 National Resource Centers

12 Regional Resource Centers

The National **T**elehealth **T**echnology **A**ssessment Resource **C**enter aims to create better-informed consumers of telehealth technology. By offering a variety of services in the area of technology assessment, the TTAC (pronounced “tea-tac”) aims to become the place for answers to questions about selecting appropriate technologies for your telehealth program.



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