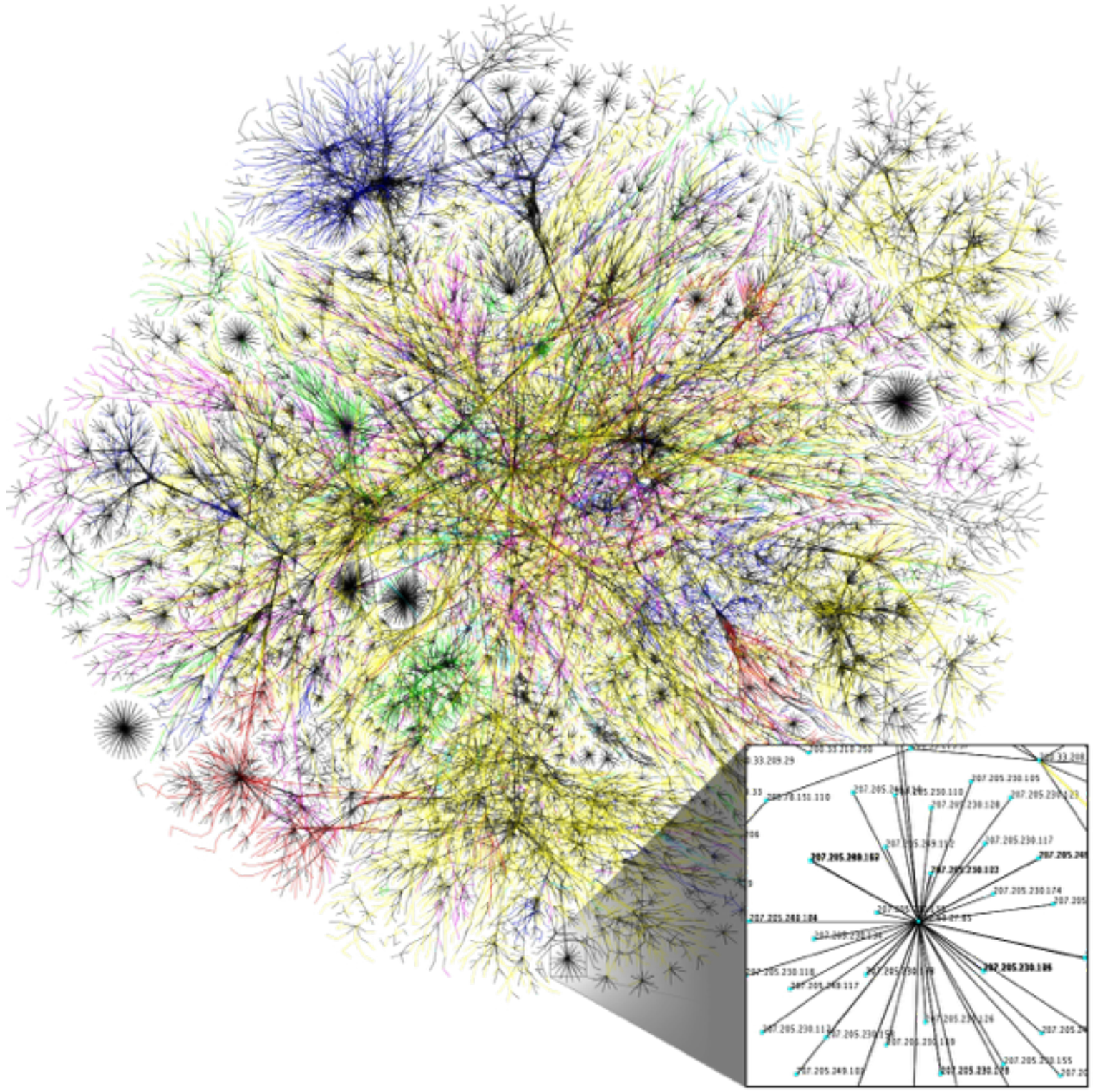
# Internet
# (extended version)

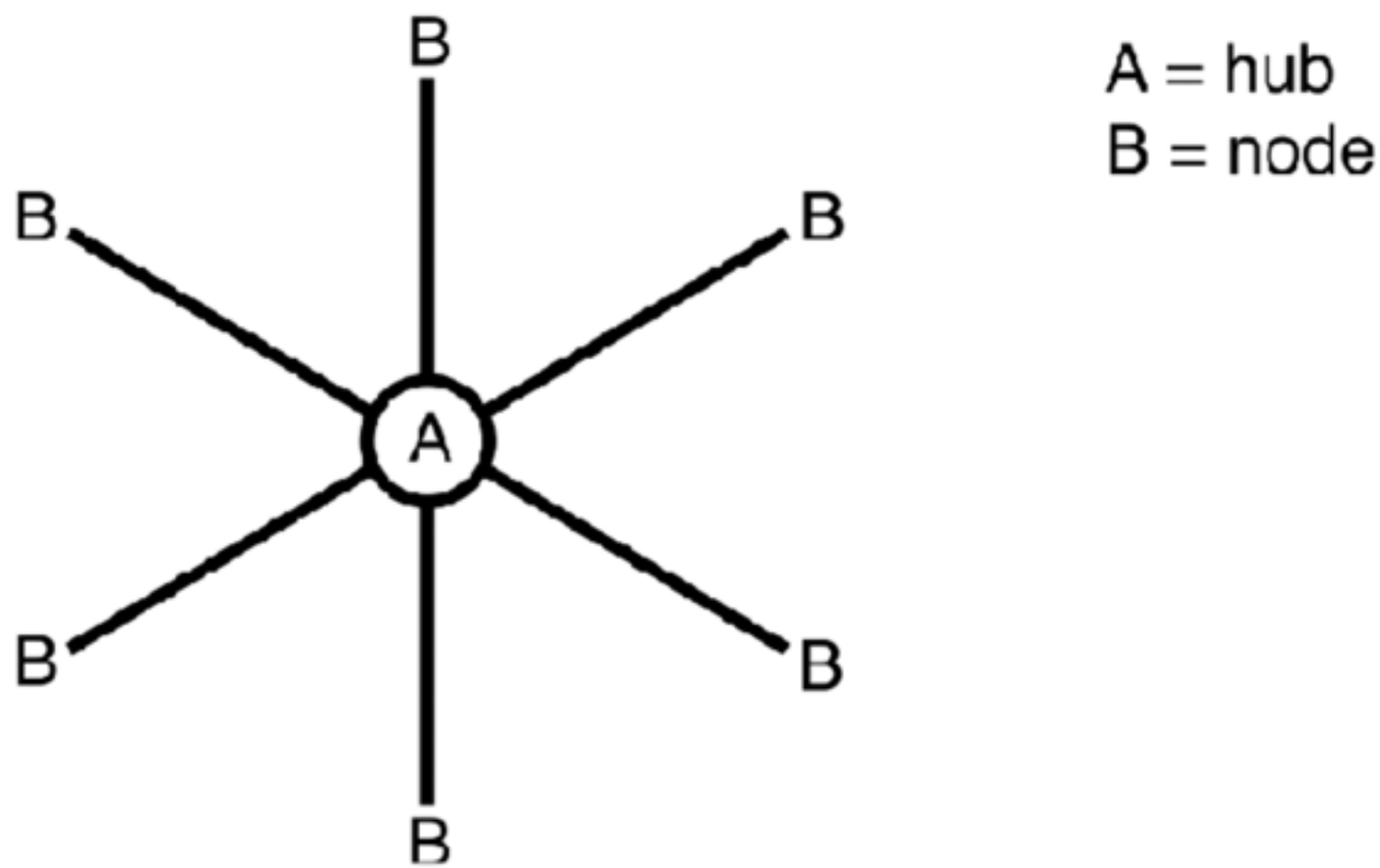


*Visualization of routing paths through a portion of the Internet*

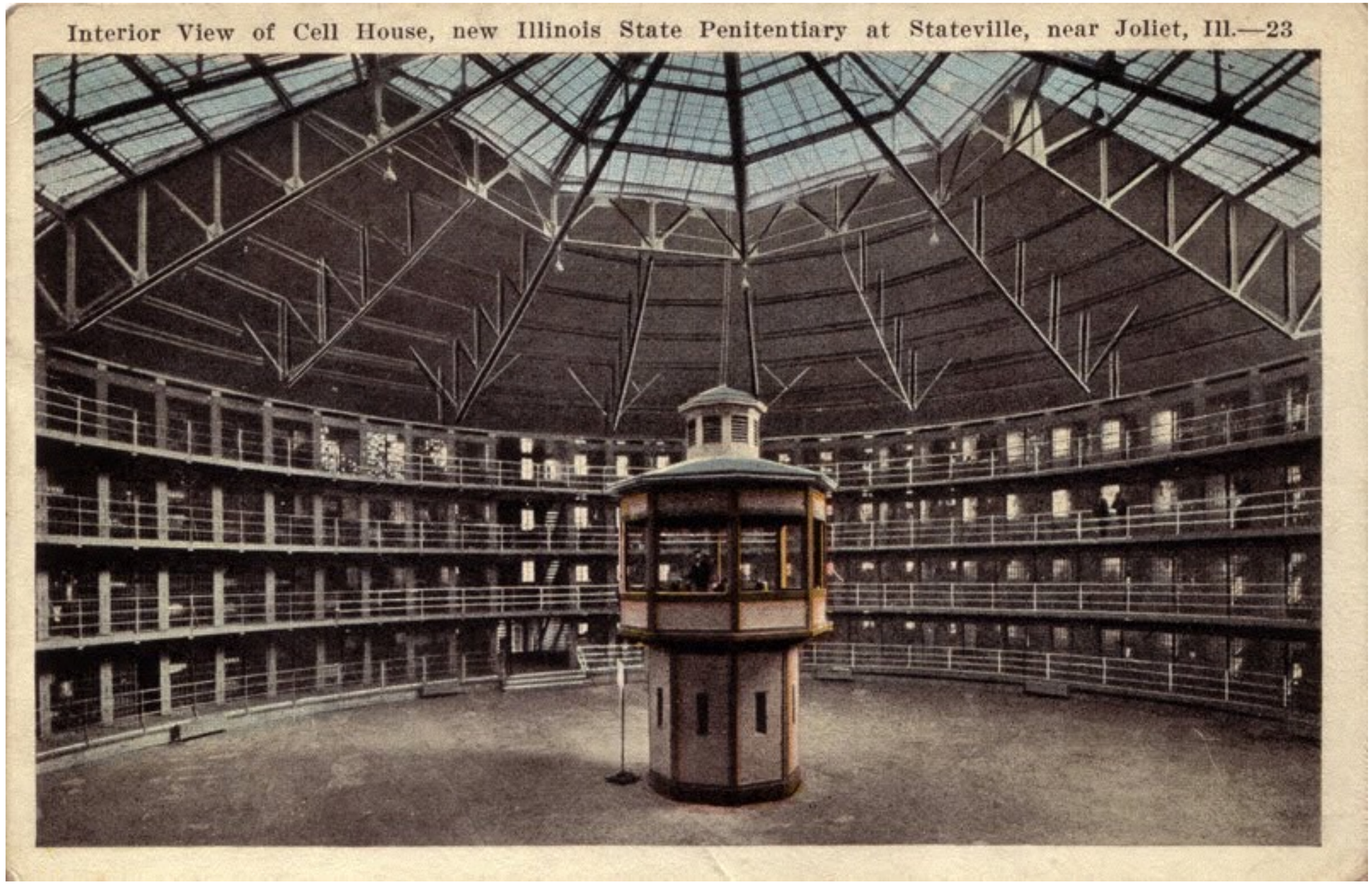
“While many have debated the origins of the Internet, it’s clear that in many ways it was built to withstand nuclear attack. The Net was designed as a solution to the vulnerability of the military’s centralized system of command and control during the late 1950’s and beyond. For, the argument goes, if there are no central command centers, then there can be no central targets and overall damage is reduced.”

Alexander Galloway, *Protocol*

*DARPA: Defense Advanced Research Projects Agency*

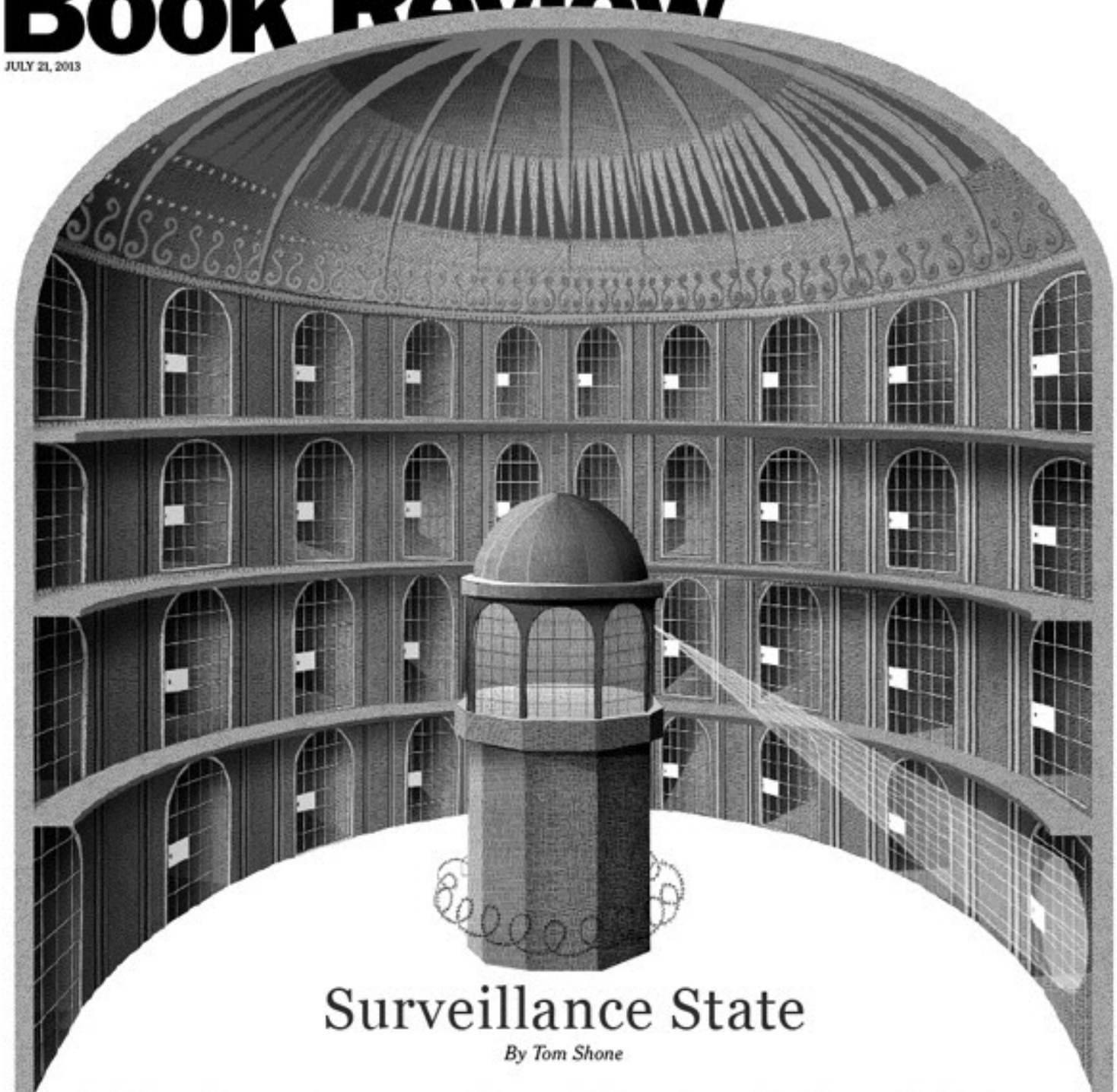



*Centralized network*




*Real example of centralized network — Panopticon (building design)*

The New York Times
Book Review
JULY 21, 2013

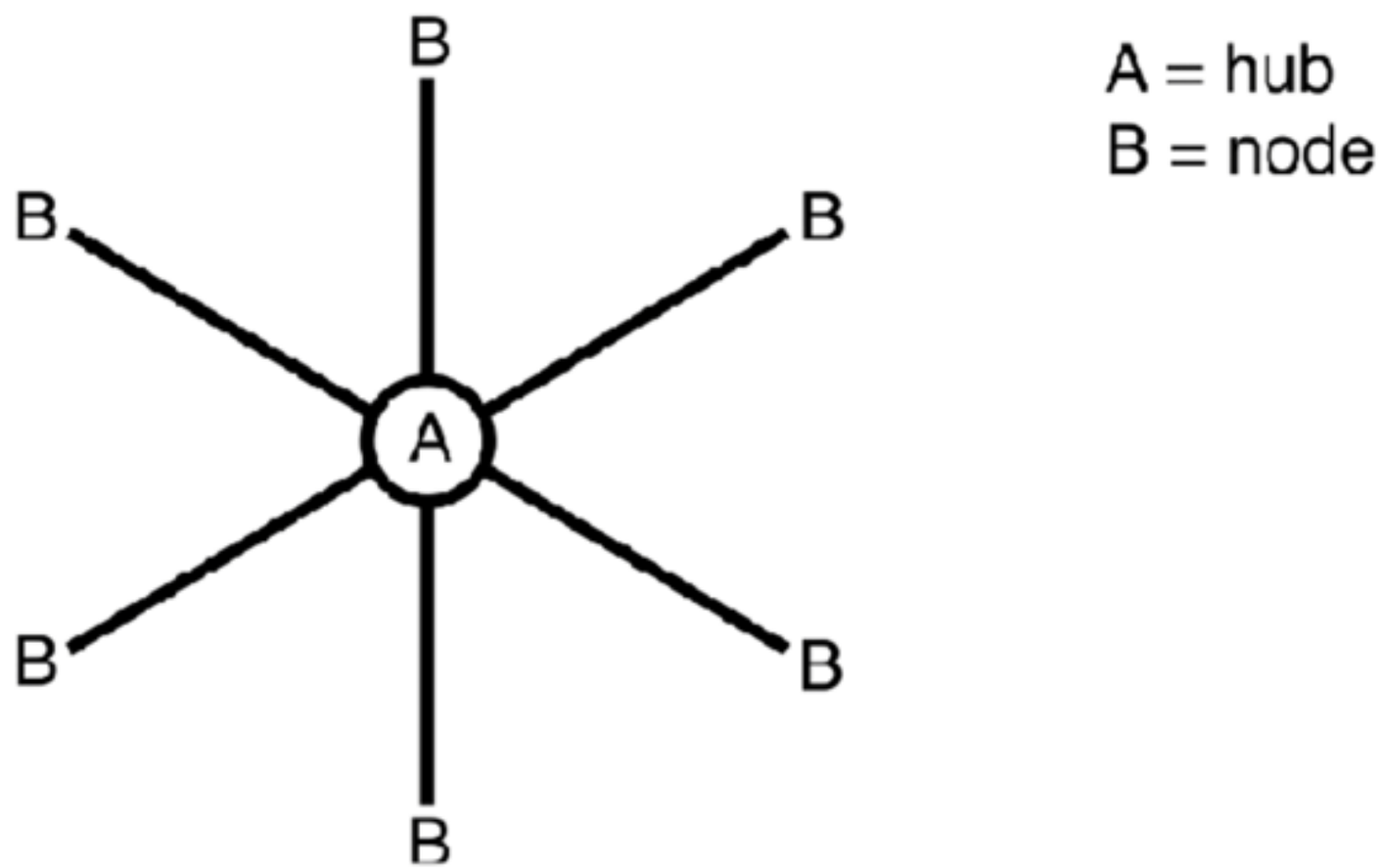


# Surveillance State

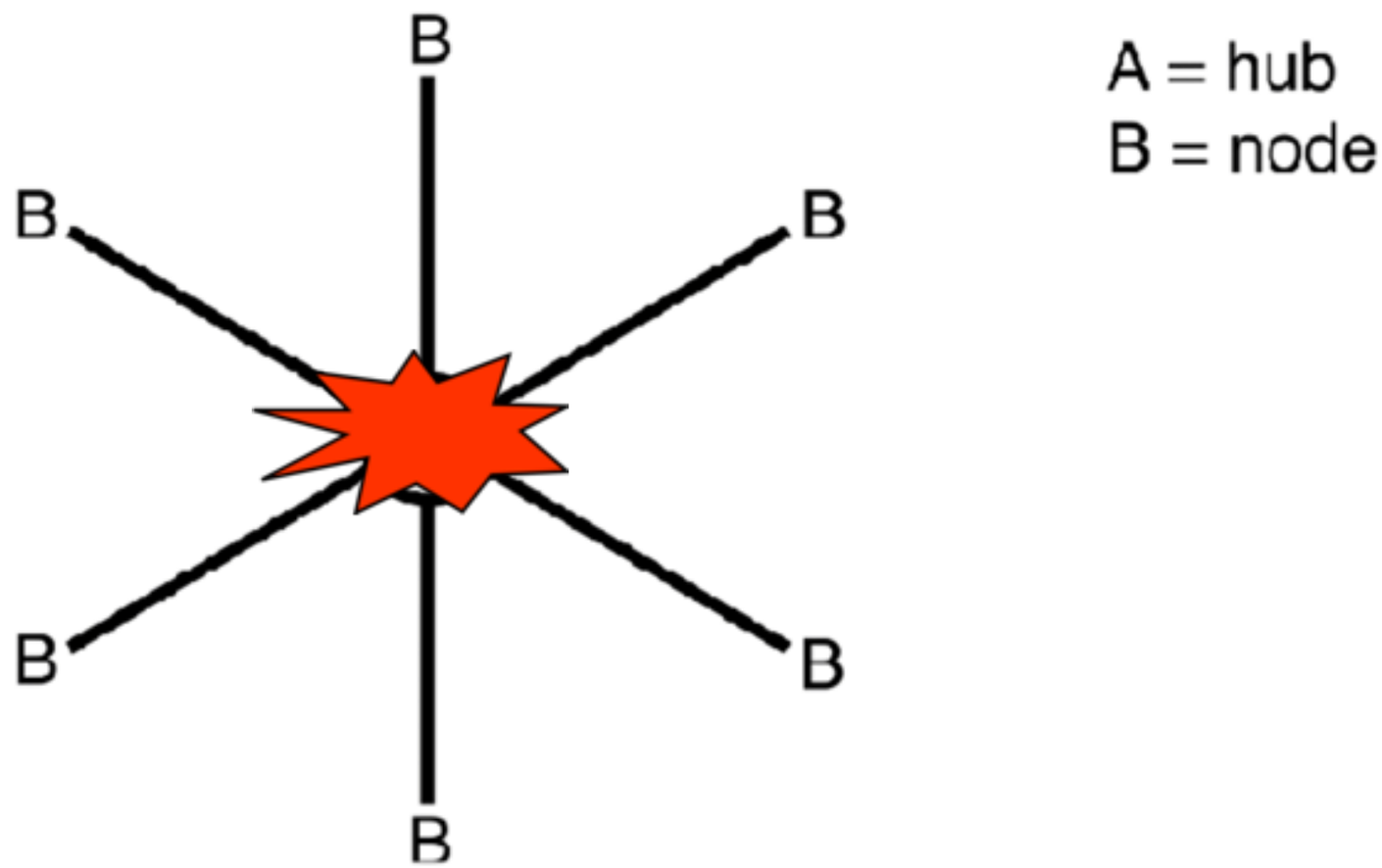
*By Tom Shone*

"I'm a bit unconvinced by reality," says Anais Hendricks, the heroine of Jenni Fagan's debut novel, "The Panopticon." "It's fundamentally lacking in something, and nobody seems bothered." When we first meet Anais she is handcufffed in the back of a police car, her school uniform covered in blood, on her way to an institution for young offenders. She has no family, and has never seen so much as a photograph of any relatives. Her hobbies include joyriding, tripping on school days, painting CCTV cameras flourescent pink and hand-delivering the lights from police cars, covered with glitter, to the desk of her local constabulary. Now 15, she still feels "2 years old and ready

*Continued on Page TK*




*Centralized network*

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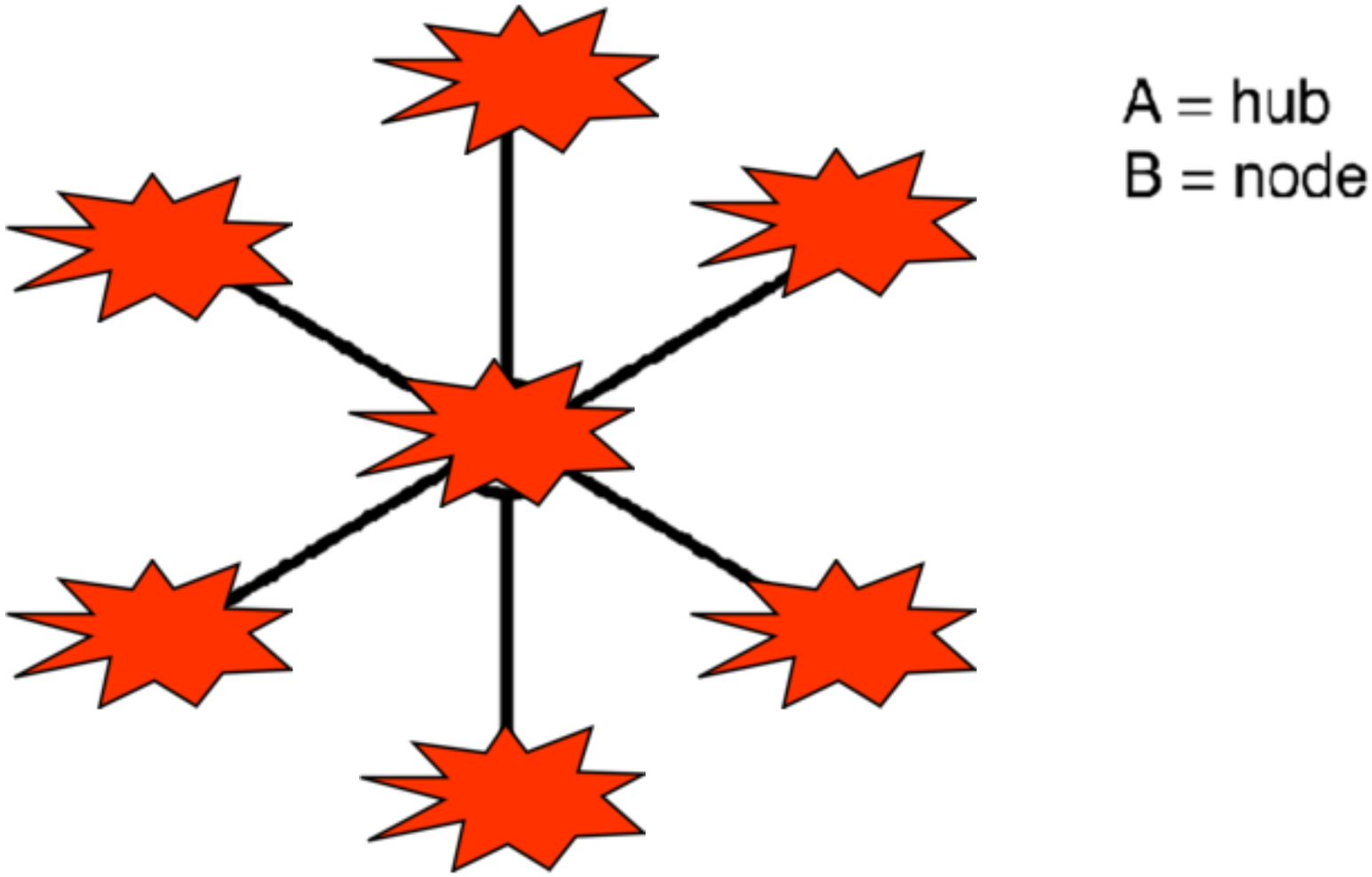


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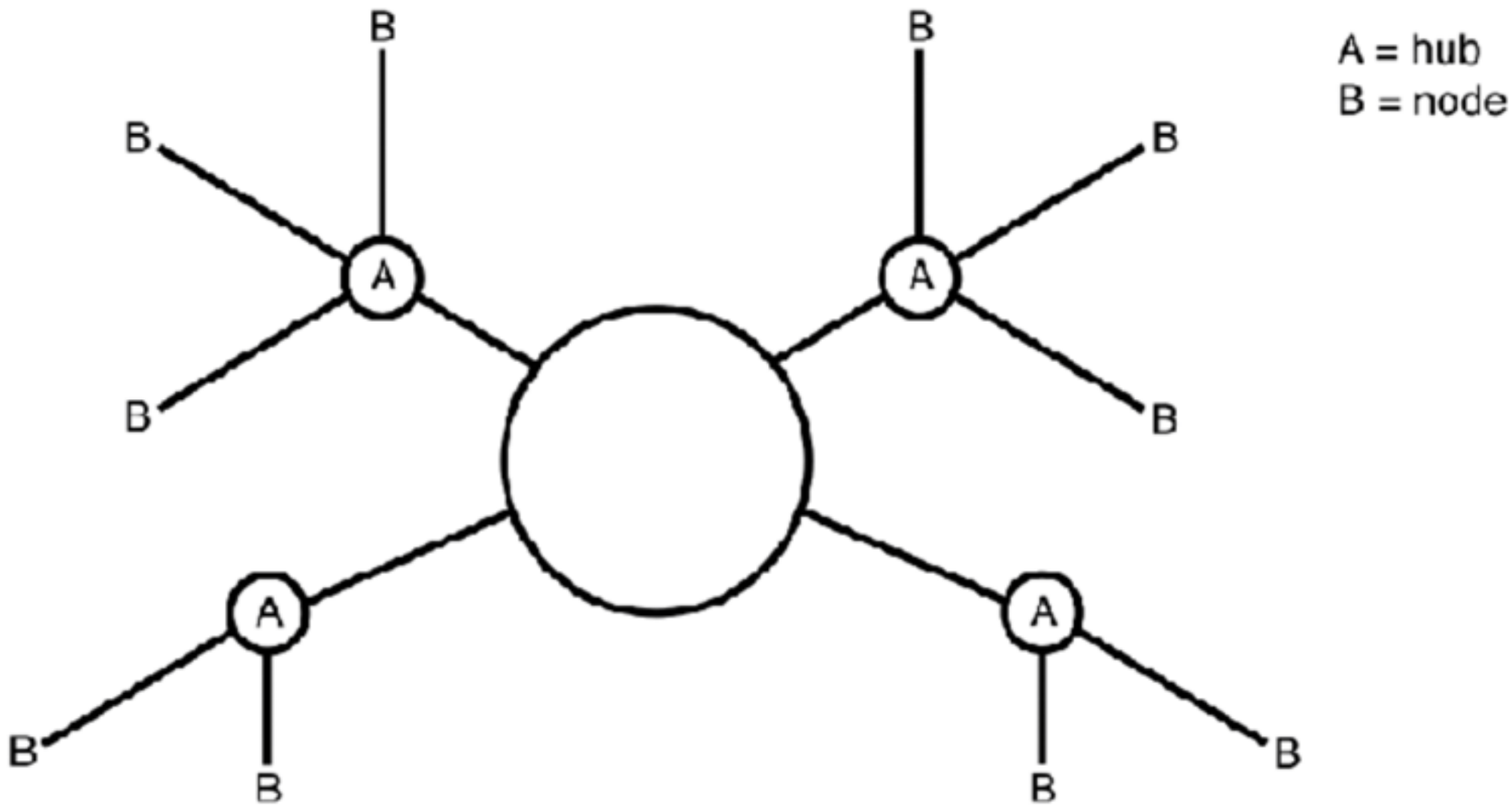
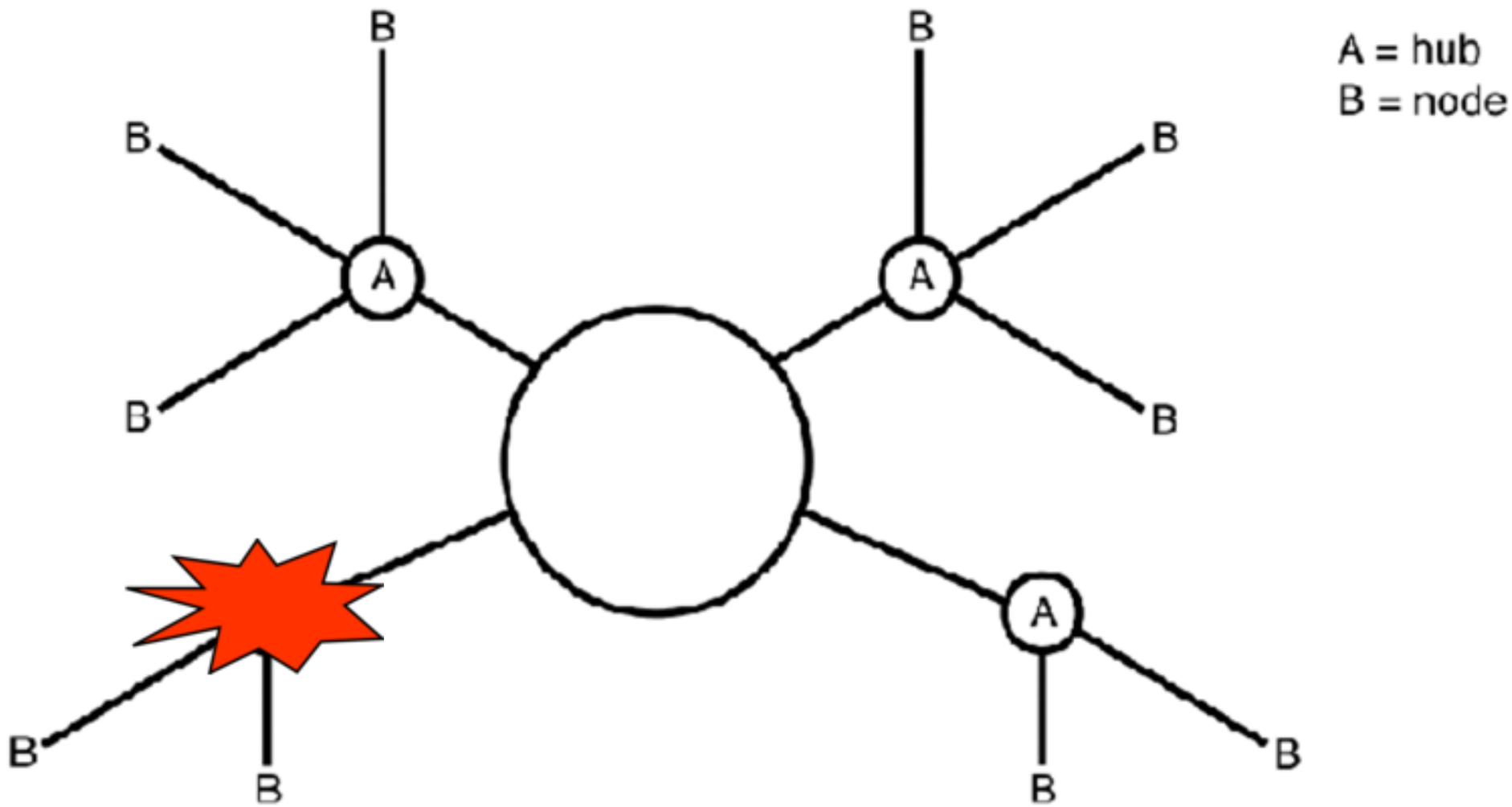



*Decentralized network*

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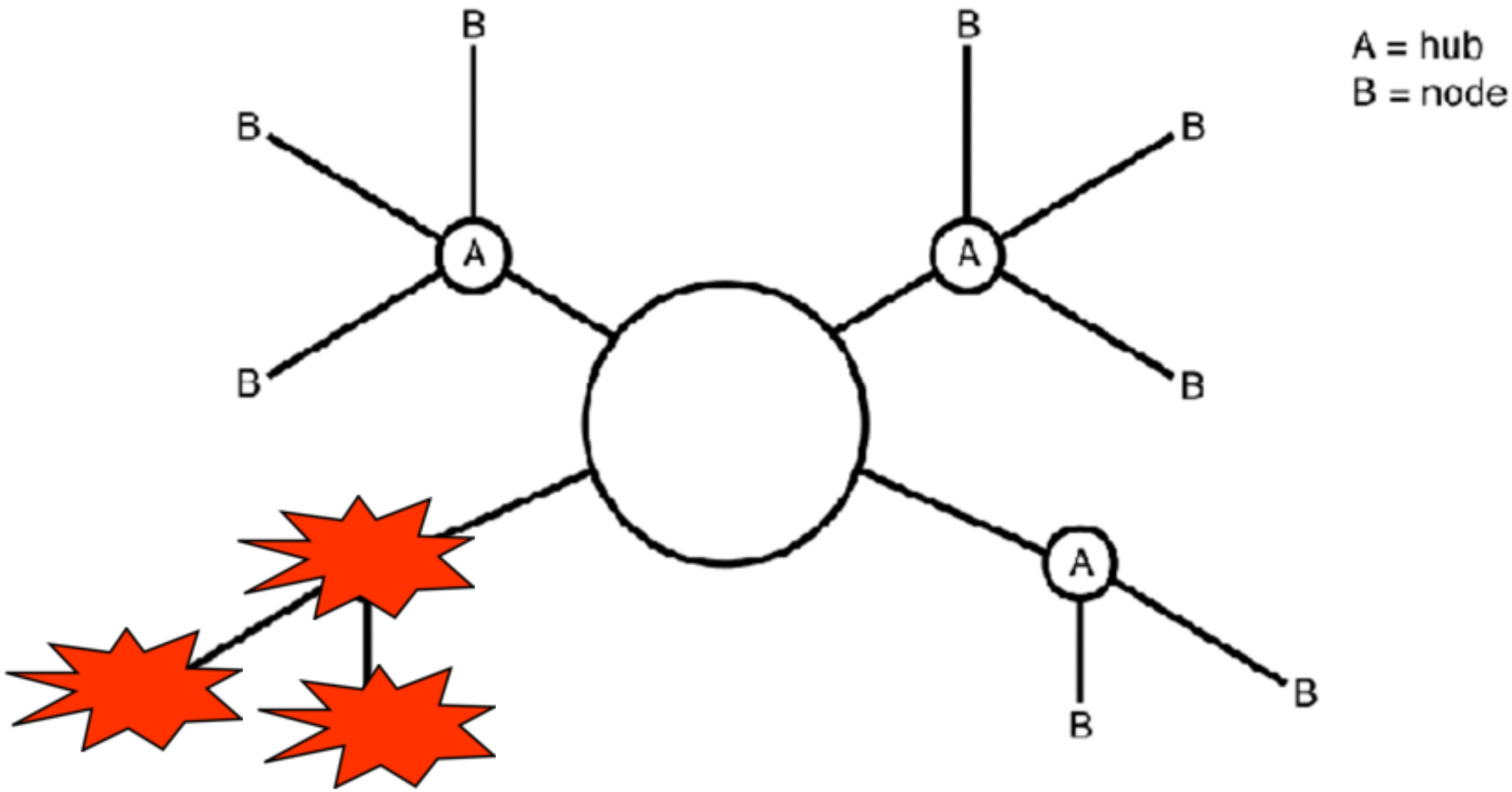
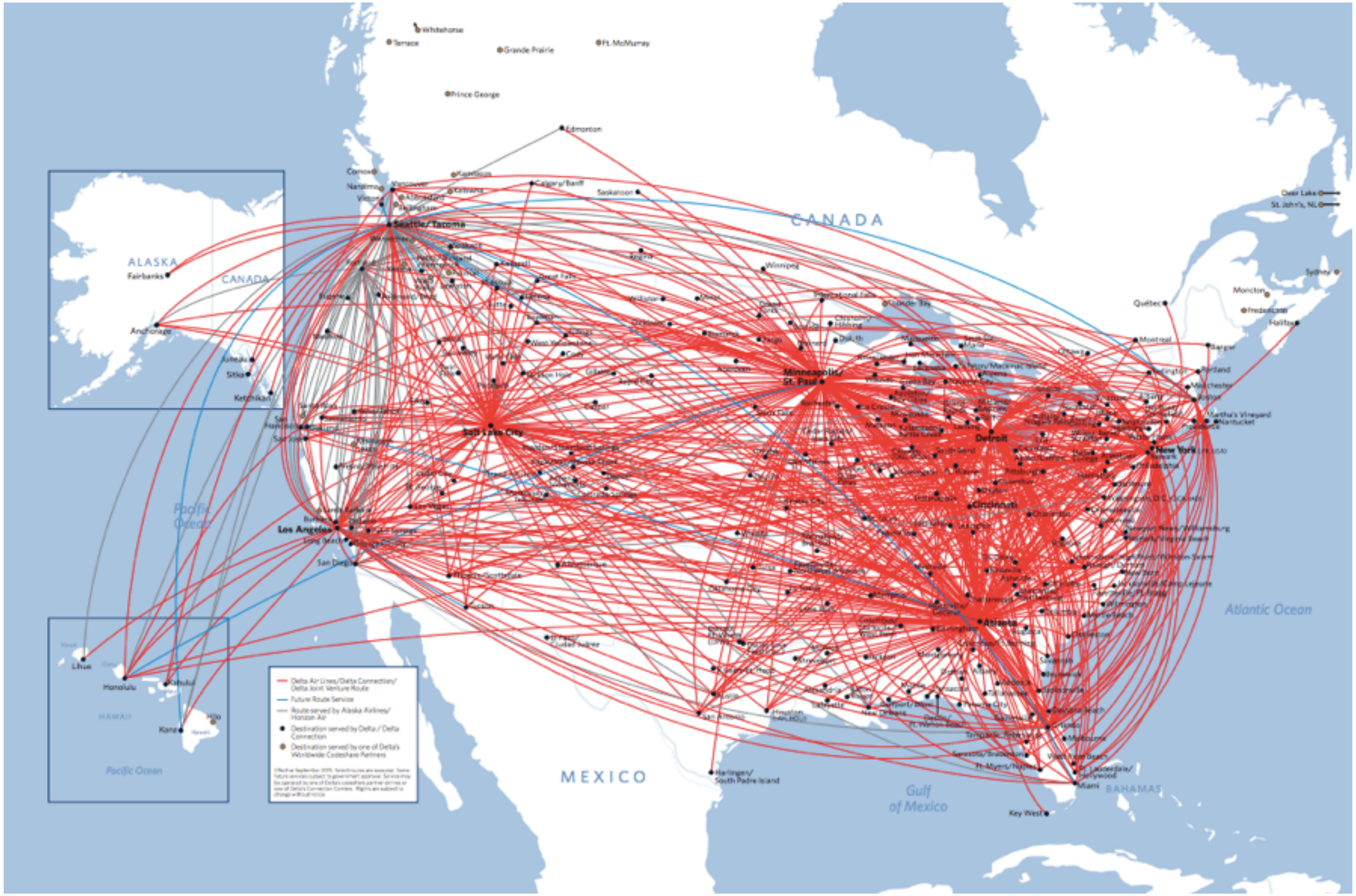


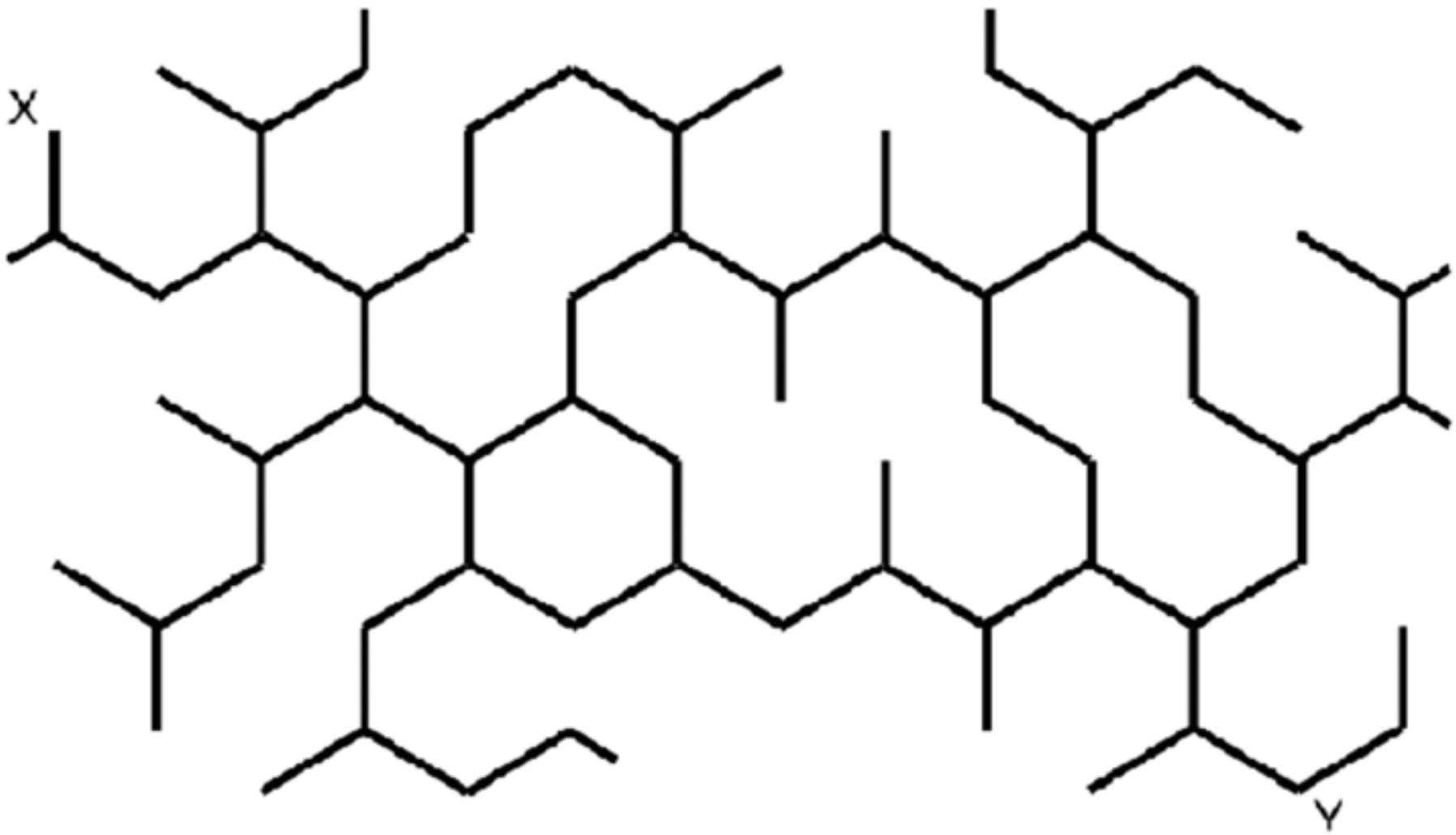

*Decentralized network*


CARIBBEAN
Marsh Harbour
Freeport/Grand Bahama
Nassau
North Eleuthera
Exuma
Turks and Caicos
Grand Cayman
Santiago
Punta Cana
St. Thomas
St. Maarten
Port-au-Prince
San Juan
Antigua
Montego Bay
Kingston
Santo Domingo
St. Kitts
St. Lucia
Barbados
Aruba
Grenada
Bonaire
Delta Air Lines/Delta Joint Venture Route
Future Route Service
Alaska Airlines/ Horizon Air Route
Destination served by Delta/ Delta Connection
Destination served by one of Delta's Worldwide Codeshare Partners
Effective September 2015. Select routes are seasonal. Some future services subject to government approval. Service may be operated by one of Delta's codeshare partner airlines or one of Delta's Connection Carriers. Flights are subject to change without notice.
Seattle
Minneapolis/ St. Paul
Salt Lake City
Los Angeles
San Diego
Hermosillo
Detroit
Boston
Hartford/Springfield
New York (JFK, LGA)
Pittsburgh
Baltimore
Washington DC (IAD)
Columbus
Indianapolis
Cincinnati
Nashville
Memphis
Raleigh/Durham
Atlanta
Bermuda
New Orleans
Orlando
Tampa
Freeport/Grand Bahama
Marsh Harbour
North Eleuthera
Nassau
Exuma
Turks and Caicos
Puerto Rico
St. Thomas
St. Maarten
Antigua
St. Croix
St. Kitts
St. Lucia
Barbados
Grenada
Bonaire
Aruba
Caracas
Santo Domingo
Kingston
Montego Bay
Cancun
Cozumel
Merida
Campeche
Ciudad del Carmen
Villahermosa
Oaxaca
Huatulco
Tapachula
Guatemala City
San Salvador
Managua
Liberia
San José
Tegucigalpa
San Pedro Sula
Belize City
Mexico City
Puerto Vallarta
Guadalajara
Mazatlán
Monterrey
Tampico
Veracruz
Minatitlán
Acapulco
Panama City
Cartagena
Medellín
Bogotá
Quito
Lima
Santiago
Buenos Aires
Montevideo
Manaus
Belém
Teresina
Fortaleza
Natal
Recife
Maceió
Aracaju
Salvador
Brasília
Goiânia
Uberlândia
Cuiabá
Belo Horizonte
Vitória
São Paulo/Viracopos/ Campinas (VCP)
Rio de Janeiro
Rio de Janeiro (SDU)
Campo Grande
Londrina
São Paulo (GRU)
São Paulo (CGH)
Asunción
Iguazú Falls
Curitiba
Navegantes
Florianópolis
Porto Alegre

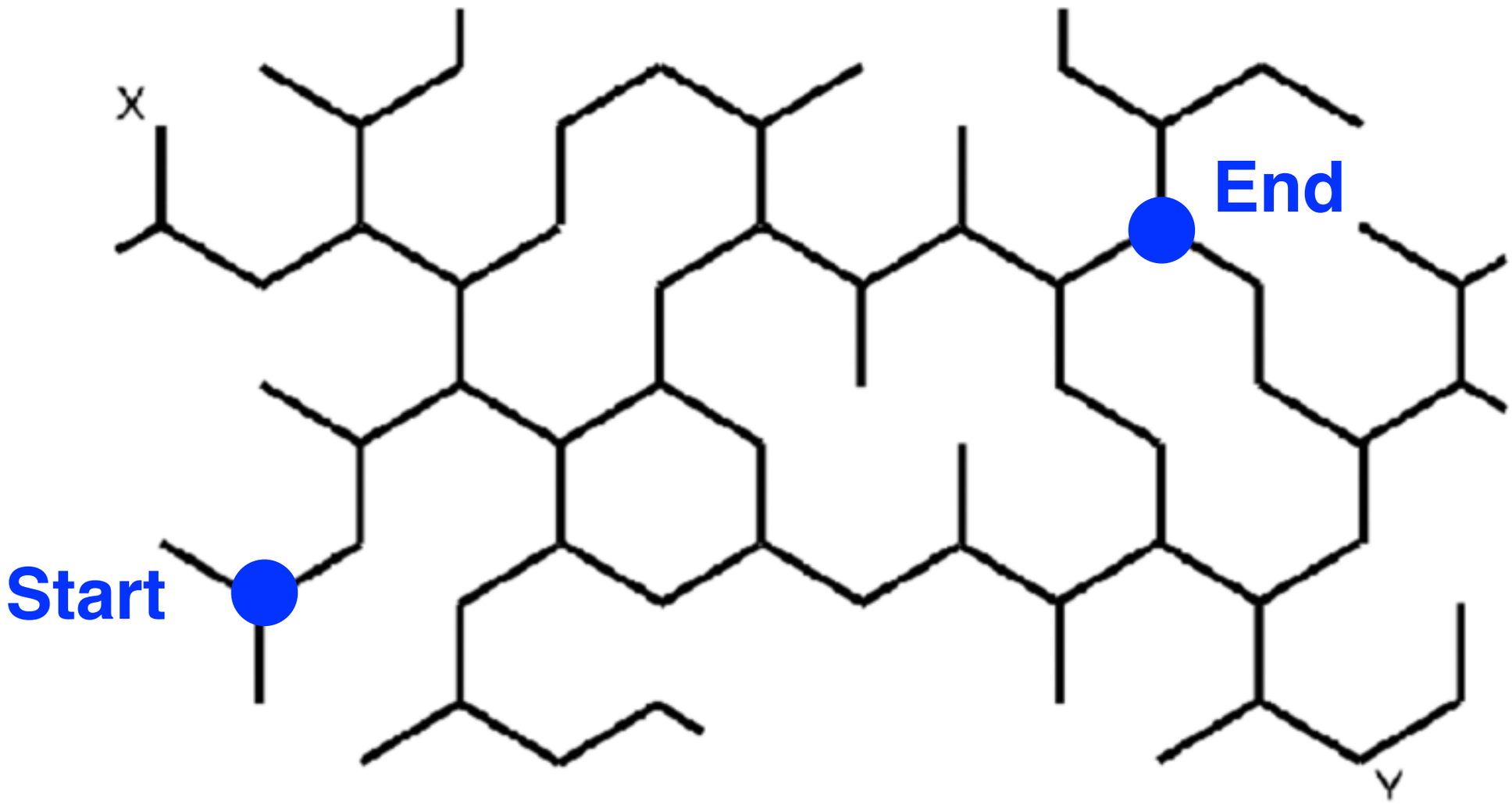



*Real example of decentralized network — air travel routes*


*The ARPANET (an internet precursor) over time*




*Distributed network*

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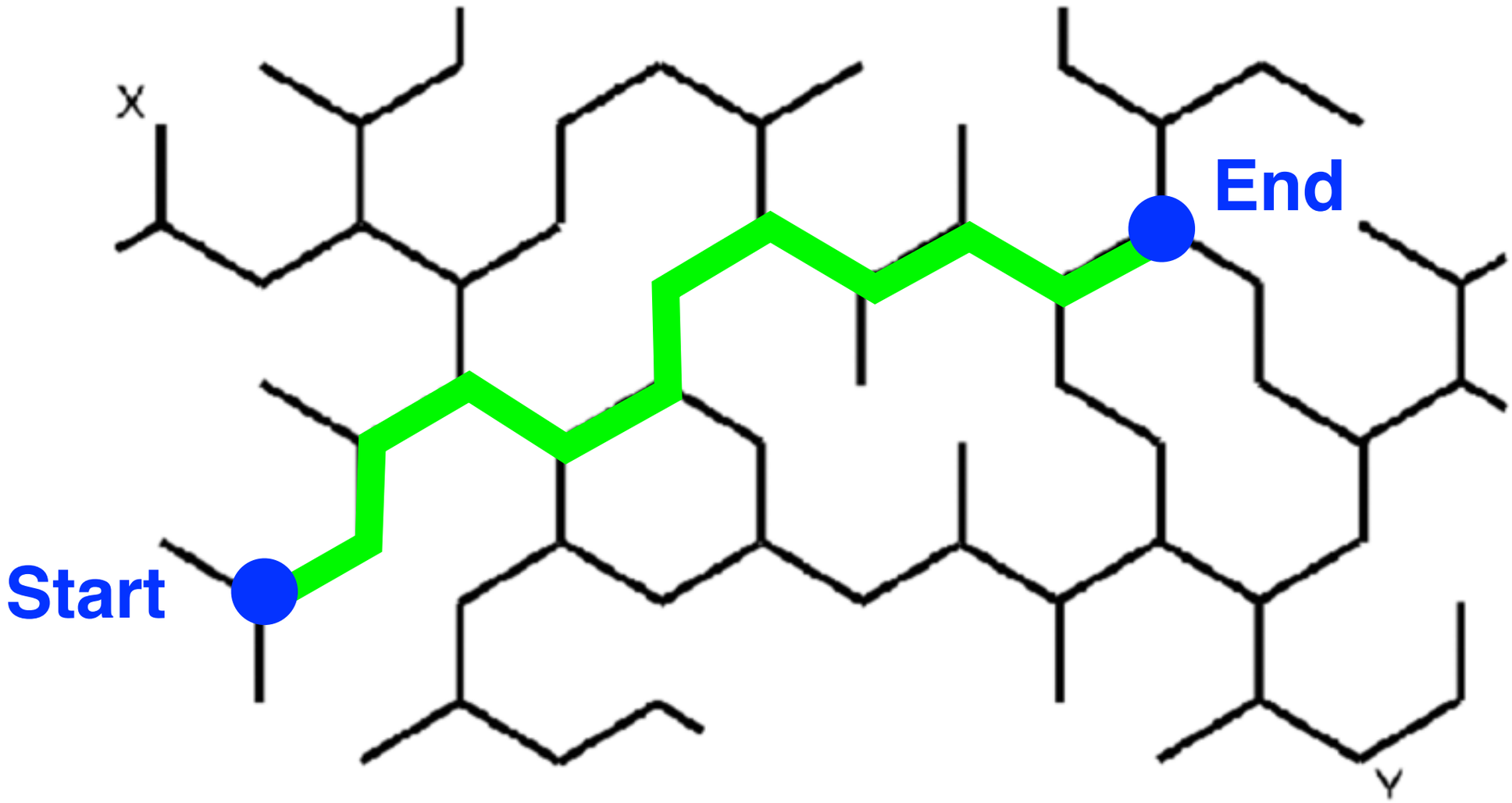
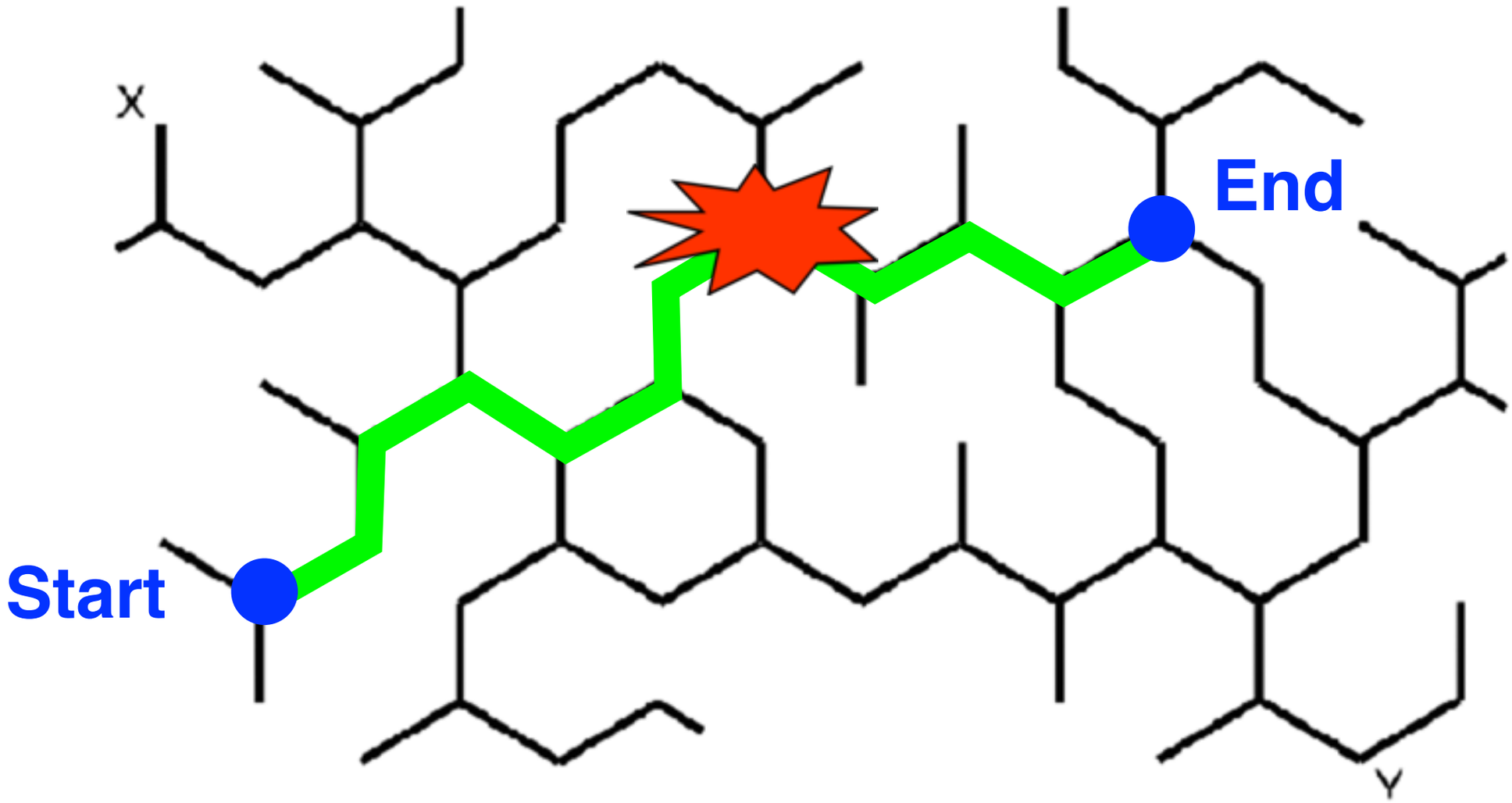
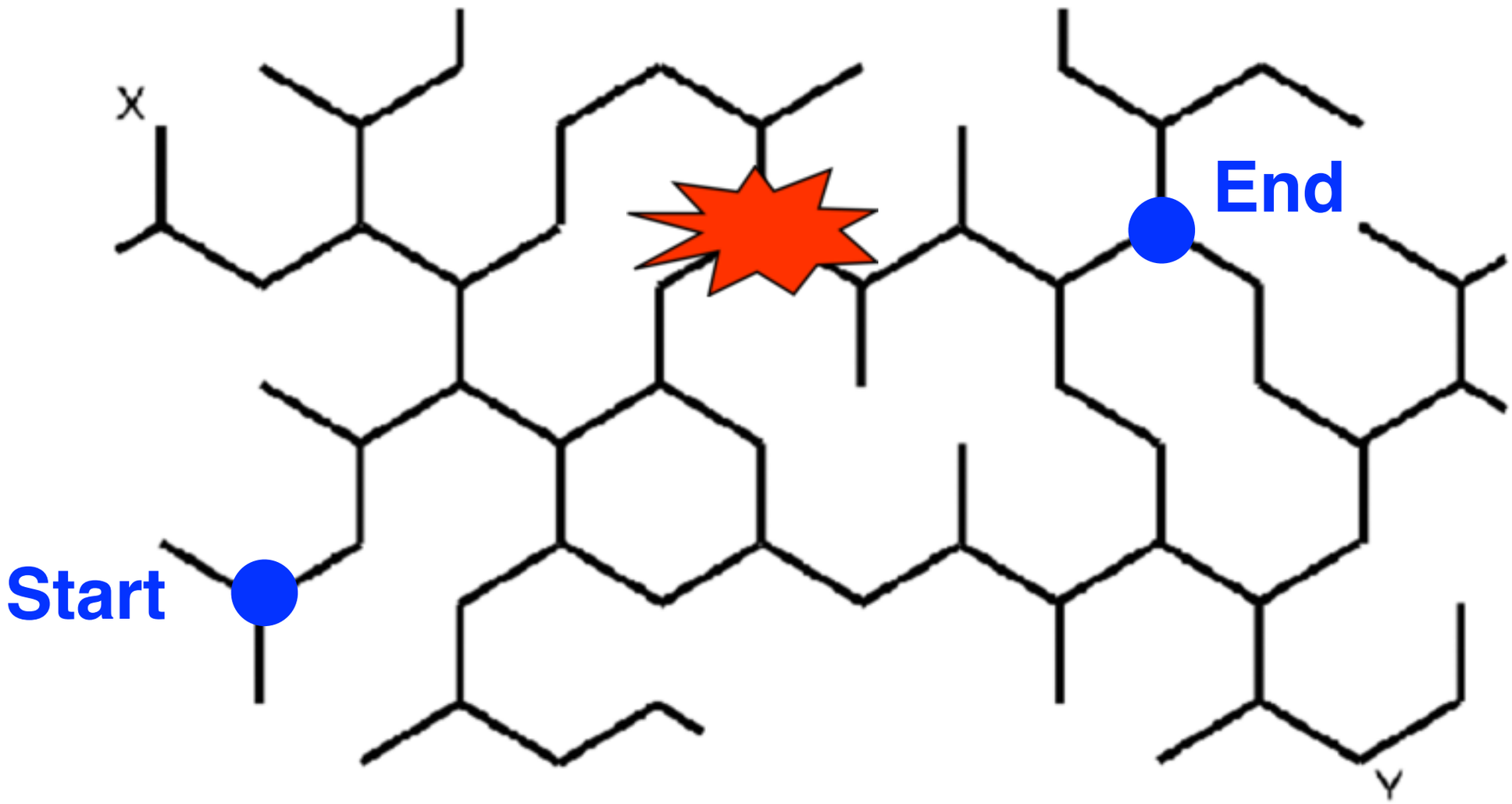


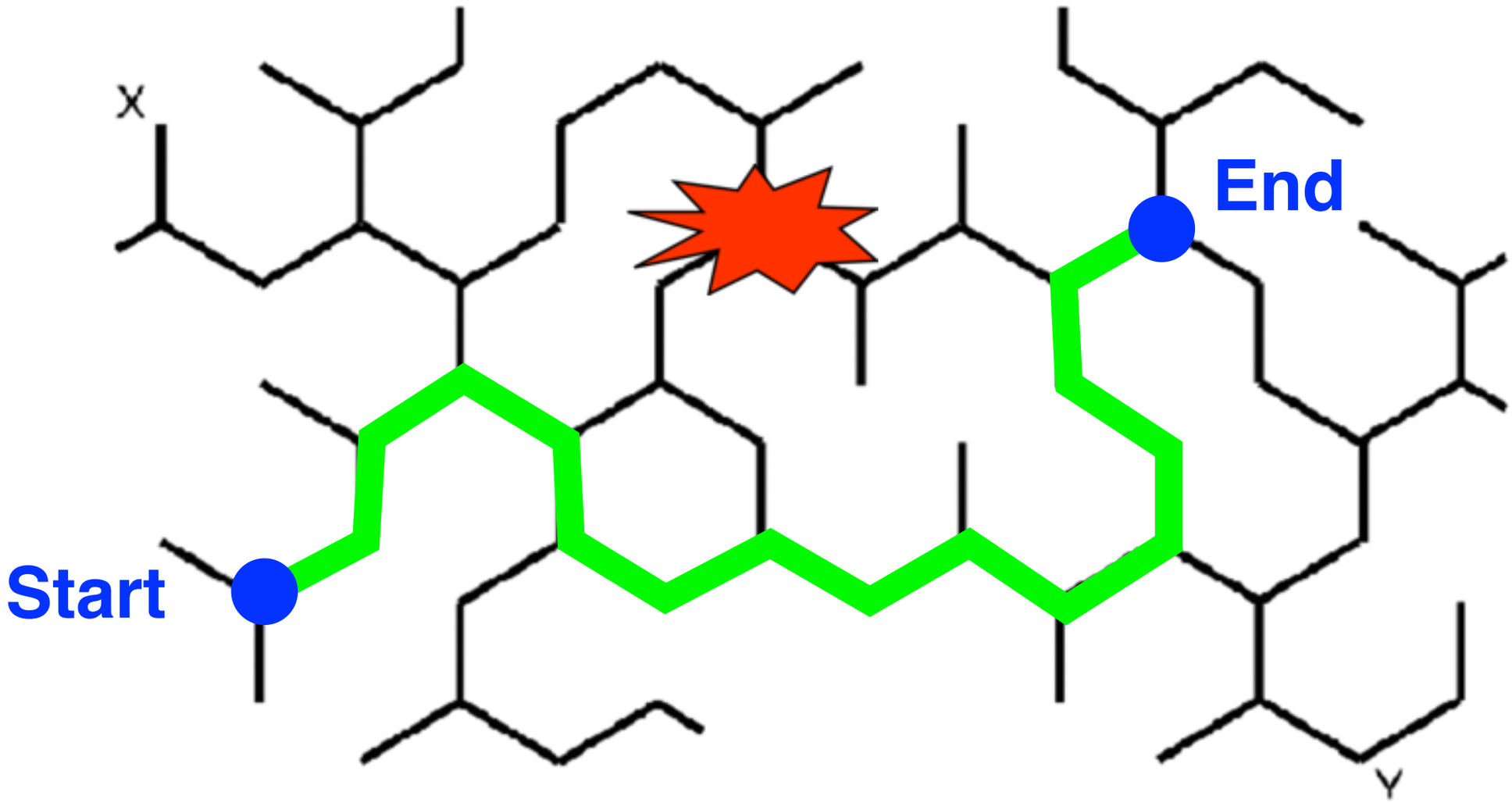

*Distributed network*



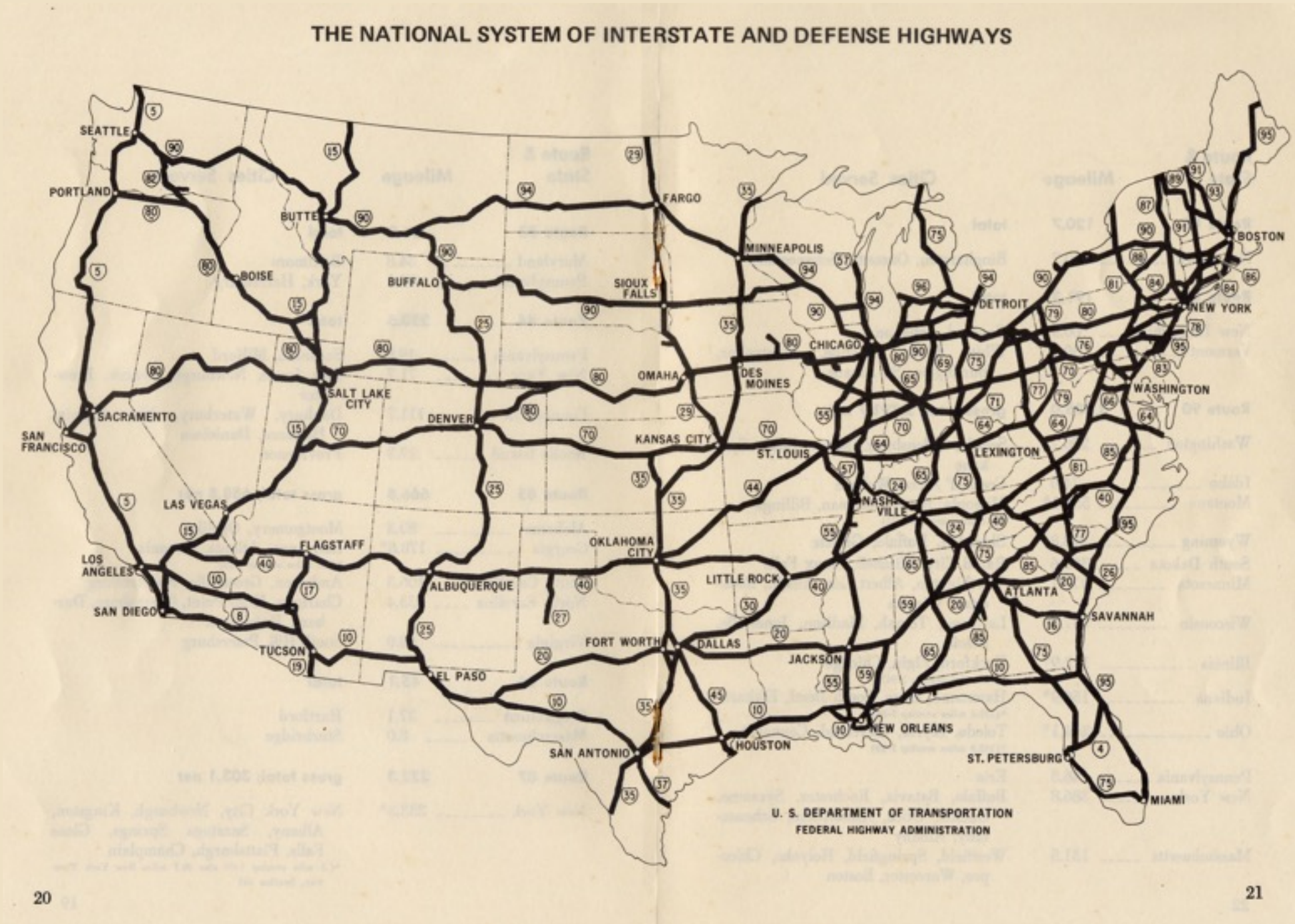

*Distributed network*




*Distributed network*




*Distributed network*

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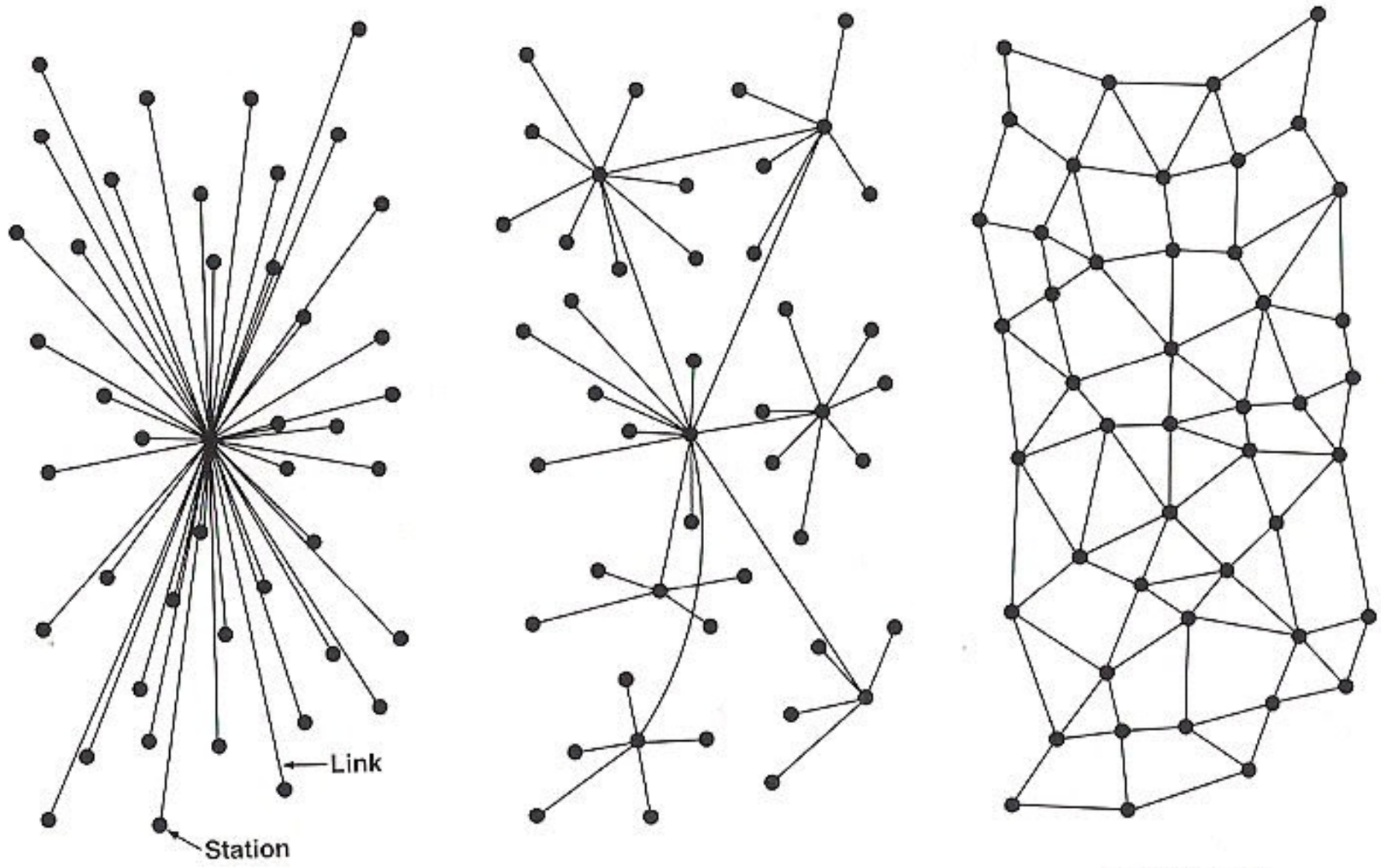
*Real example of distributed network — US Highway System*




Centralized Decentralized Distributed

# Host

A host is a computer on the network that can communicate with other computers. Think of it as a single node in the diagrams we just looked at.

*When a host sends information, it's called a* ***server****.*

*When a host receives information, it's called a* ***client****.*

# Protocol

Protocol is a way in which information is passed from one computer to another. It's like the language that all hosts (computers on the network) speak.

Examples:

*Email*
*HTTP — hypertext transfer protocol*
*FTP — file transfer protocol*
*IP — internet protocol*
*TCP — transmission control protocol*

# DNS

DNS stands for “Domain Name Service.” Every website is actually a number, but DNS lets us refer to these numbers with language.

Example:

allmyfriendsatonce.com = 198.74.60.197

# To have your own website, you need:

1) Host (a computer always connected to the Internet)
   Such as dreamhost.com, mediatemple.com, godaddy.com, etc.
   We are using Github Pages!
   These are called “hosting providers.”

2) Domain (DNS)
   Such as name.com, iwantmyname.com, namecheap.com, etc.
   These are called “domain name registrars.”

(Sometimes you can obtain both at the same place.)

If you have one or two burning questions
about the Internet Archive,
email Greg (our future tour guide):

greg@archive.org