

The Internet Way of Networking

The Internet has radically transformed our lives for the better. It is a critical resource with an open architecture that enables it to offer connectivity, innovation, and empowerment to all.

Why does it work? The Internet owes its strength and success to a foundation of critical properties that, when combined, represent the **Internet Way of Networking**.

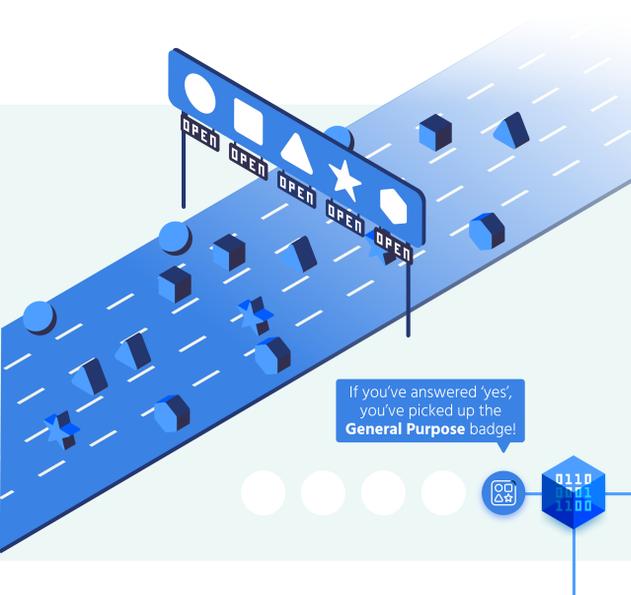
But what makes it great also makes it vulnerable. With governments and businesses increasingly making decisions that could impact the Internet – how can we keep its foundation healthy so that it continues to work for everyone?

GOAL

To pass the Internet Impact Assessment, you must earn all five badges – they represent the critical properties of the Internet's foundation responsible for its success.

The Internet Impact Assessment

Here are **5 questions** to help you analyze whether a proposed law, decision, or trend could harm the foundation of the Internet.



If you've answered 'yes', you've picked up the **General Purpose** badge!

QUESTION 1

Does the proposal support a technology neutral, general purpose network?

This is the property that lets us send different kinds of content online from point A to B – whether it's connecting with friends over social media, playing video games with friends abroad, or sending your backup files to a cloud server.

It's critical because the Internet is simply a network for moving data. If the Internet was designed for only one type of traffic, it wouldn't be able to support the many ways we use the Internet today.

QUESTION 2

Does the proposal impact the layered architecture of interoperable and re-usable building blocks?

This is the property that fuels virtually infinite innovation online – whether you're designing a website, or building an application. It lets us keep the Internet simple and add features quickly to end systems.

It's critical because it allows the base infrastructure and architecture of the Internet to be universally understood by network providers, routers and application providers. The layered architecture is only reliable because it doesn't change. Everything is built on those solid layers.

If you've answered 'no', you've picked up the **Universal Standards** badge.



If you've answered 'yes', you've picked up the **International Community** badge!

QUESTION 3

Does the proposal respect a decentralized management and common distributed routing system?

This is the property that makes sure your email or video stream can take the **best route** through **independent networks** to reach its final destination.

It's critical because the Internet is a Network of Networks. There is no centralized control, no permission from a central authority – each network optimises its connectivity due to its unique circumstances or needs (price, services available, connection bandwidth, reliability, or quality). This makes the Internet agile and scalable.

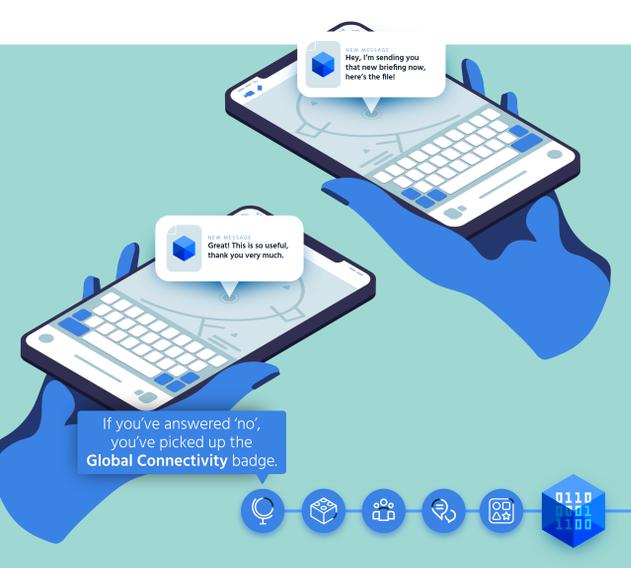
QUESTION 4

Does the proposal respect common global identifiers?

This is the property that helps us get to the correct destination online, whether it's a website or connecting with your work server from home.

Like an address on a postcard, every packet of data has a common accepted identifier (IP address) to help send it on its way. This property is critical because without a common way of identifying destinations for each parcel of data, we'd need to construct special gateways to help data get from point A to B.

If you've answered 'yes', you've picked up the **Common Language** badge!



If you've answered 'no', you've picked up the **Global Connectivity** badge.

QUESTION 5

Does the proposal restrict the open and accessible infrastructure with a common protocol?

This is the property that lets us collaborate across the world without national borders.

The global network is easy to join. You just need to speak and understand the "common language" of TCP/IP. Once you've joined, you extend the Internet itself with your devices, your content and your innovation. The more people join the global network, the more it grows and develops.

To pass the Internet Impact Assessment, you must earn all five badges – they represent the critical properties needed to support a healthy foundation for the global Internet.

- PROPERTY 1**
An Accessible Infrastructure With a Common Protocol
- PROPERTY 2**
Open Architecture of Interoperable and Reusable Building Blocks
- PROPERTY 3**
Decentralized Management and a Single Distributed Routing System
- PROPERTY 4**
Common Global Identifiers
- PROPERTY 5**
A Technology Neutral, General-Purpose Network

By using and advocating for the **Internet Impact Assessment** to guide policymakers and technologists, we can all make sure the Internet continues to bring connectivity, innovation, and empowerment to everyone.

To learn more, please visit: internetsociety.org/impact-assessment



Threats to the Internet Way of Networking



The Internet is an incredible resource because it was built to foster a culture of collaboration and participation for the collective good.

But the open architecture that makes it strong and successful is not invincible. Governments and businesses are increasingly making decisions that could harm the Internet's foundation, and they may not even know it.

Actions that impact any one of the Internet's critical properties could erode the foundation as a whole.



PROPERTY 1
An Accessible Infrastructure With a Common Protocol



PROPERTY 2
Open Architecture of Interoperable and Reusable Building Blocks



PROPERTY 3
Decentralized Management and a Single Distributed Routing System



PROPERTY 4
Common Global Identifiers



PROPERTY 5
A Technology Neutral, General-Purpose Network

Here are a few examples of regulatory actions that could harm the Internet:

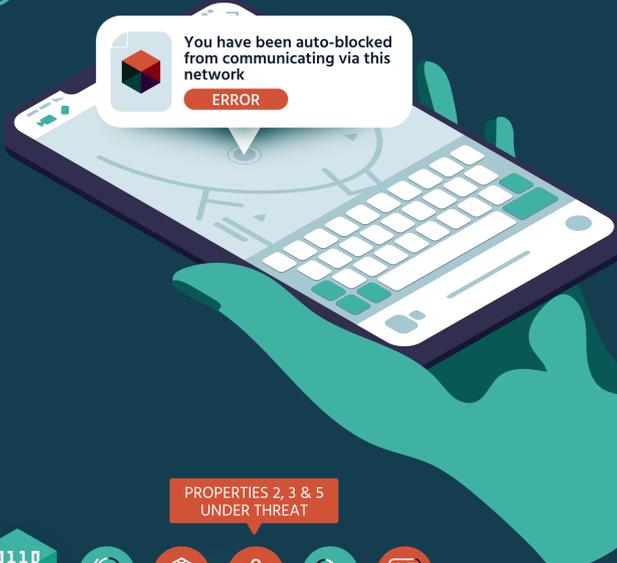
THREAT 1

Removal of intermediary liability protection

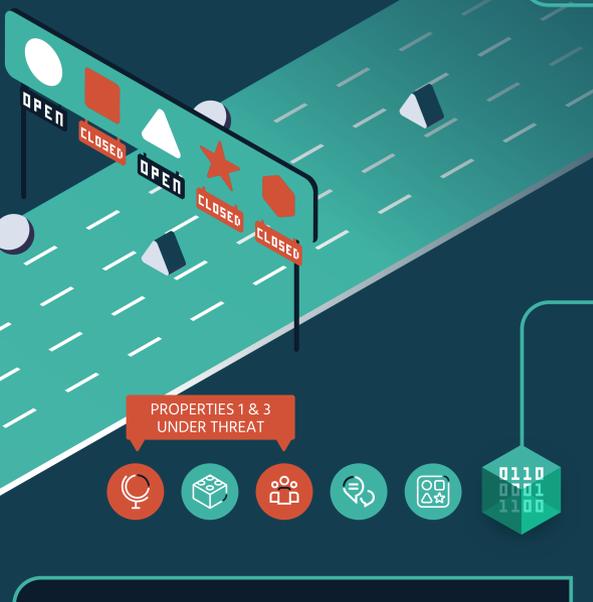
Internet intermediaries include Internet service providers (ISPs), Internet exchange points (IXPs), content delivery networks (CDNs), domain name registries and registrars.

Intermediaries play important roles in our daily experiences online: they manage network infrastructure, provide Internet access, facilitate content delivery, help networks connect to each other, and allow users to use and deliver services over the Internet.

Just like a postal service wouldn't be held liable for the contents of people's letters or packages, intermediaries rely on laws that don't hold them responsible for the actions of users of their networks.



PROPERTIES 2, 3 & 5 UNDER THREAT



PROPERTIES 1 & 3 UNDER THREAT



THREAT 2

Centralized control over interconnection and routing

In some countries, there is a trend towards centralized decision-making and reduced autonomy of operators in defining how they manage network interconnection and routing.

RUSSIA'S SOVEREIGN INTERNET LAW

Network operators will have to provide the regulator, Roskomnadzor, with network diagrams and technical design of the communications facilities so that "technical means of countering threats" (TMCT) can be installed.

If the regulator identifies a security threat to its public communications network, it can use TMCT to change traffic routing, close or limit communication lines and channels, directly contact user, and change the configuration of communications. If Roskomnadzor declares a communications emergency, it will be able to control routing and other operator decisions.

U.S. CLEAN NETWORK PROGRAM

The U.S. Clean Network program challenges the open architecture of the Internet at its very core. The "Clean Carrier" and "Clean Cable" programs would force vast amounts of Internet traffic to route into third countries, extending the distances data must travel, increasing the potential for surveillance and manipulation of Internet traffic, increasing the risk of Internet outages, and in general increasing costs to everyone on the Internet.

Having a government dictate how networks interconnect impacts the Internet's agility, resiliency and flexibility.

THE CHINA MODEL

China's big three operators China Telecom, China Unicom, and China Mobile run 70% of networks and much of the backbone infrastructure of smaller networks. They run the three gateways which filter Internet traffic in and out of China. The choke-points that these three companies hold on interconnection with all networks outside of China severely limits the access of China's network providers and Internet users to the global Internet.

It's up to all of us to **protect** and **enhance** the **future** of the Internet.

By using the **Internet Impact Assessment** to show policymakers how laws, decisions and trends could impact the foundation of the Internet responsible for its success, we can help make sure it keeps working for **everyone**.

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