



SANOG 2026 Closing Keynote

Critical Communication Infrastructure
A Path to Protection Under International Law

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What is the basis of international law?

International law (laws which supersede national laws) are formed by treaties between countries.

These treaties can instantiate intergovernmental organizations (IGOs), like the United Nations, the World Trade Organization, NATO, ASEAN, INTERPOL, and PCH; or they can define law.

The United Nations has 193 member states, so international law agreed to within the UN governs 99.5% of the world's population, and takes precedence over national laws within their countries.

Among the most important of UN international laws is the 1948 Universal Declaration of Human Rights and its subsequent interpretations and clarifications. This is thus a broadly-applicable basis for understanding what rights people might have to Internet access.

Article 12

No one shall be subjected to arbitrary interference with his privacy or correspondence.
Everyone has the right to the protection of the law against such interference or attacks.

In 1948, fewer than 1% of households had telephones, and more than half of those were concentrated in the United States, so “correspondence” was principally postal and telegraph, but the United Nations purposefully did not constrain it to those technologies. Any modern reading of Article 12 would understand “correspondence” to include electronic communication such as email, instant messaging, and digital telephony.

Indeed, UN Human Rights Committee CCPR General Comment No. 16 (1988):

“Correspondence should be **delivered to the addressee without interception and without being opened or otherwise read**. Surveillance, whether electronic or otherwise, interceptions of telephonic, telegraphic and other forms of communication, wire-tapping and recording of conversations should be prohibited.”

Article 19

Everyone has the right to seek, receive and impart information and ideas through any media and regardless of frontiers.

“Through any media” indicates exactly the degree of forethought which encompasses modern digital communications. And “regardless of frontiers” puts international, cross-border communication squarely in-scope.

Article 20

Everyone has the right to freedom of peaceful assembly and association.

A 2018 Pew survey found that 70% of interpersonal interaction was already occurring through the Internet, and that 60% of people interacted with friends online each day, whereas only 24% interacted with friends in person each day. Those trends have only continued in the subsequent eight years. Therefore, any modern reading of Article 20 should understand the right to “assembly and association” as including tools like social media, chat-rooms, videoconferencing, and discussion fora.

Article 21

Everyone has the right to take part in the government of his country, directly or through freely chosen representatives.

Everyone has the right of equal access to public service in his country.

The will of the people shall be expressed in elections which shall be held by secret vote or by equivalent free voting procedures.

“E-Governance” is gradually increasing in scope. Estonia has used Internet voting universally since 2005, while the UAE, Russia and Switzerland make it available optionally, and France, Mexico, Panama, Armenia, and the Philippines use it for citizens who are overseas at the time of elections. Many additional countries use polling-place electronic voting with Internet backhaul to vote tabulation centers.

Nearly all national governments now use the Internet as the primary or only channel for publication of key information required by citizens.

Article 23

Everyone has the right to work, to free choice of employment, and favourable conditions of work.

Teleworking, working remotely via the Internet, has become common globally, particularly since the Covid pandemic, when Finland and the United States both topped 60%. Now, more than 40% of workers in Norway, Iceland, Finland and Denmark work from home at least one day each week, more than 30% in France and Estonia, with Japan and a number of other industrialized countries above 25%. Globally, the International Labor Organization estimates that more than 590 million people telework today, up from 260 million pre-Covid. To a far greater degree than workplace-bound labor, teleworkers can be said to have “free choice” among competing employers.

Beyond the clear-cut case of telework, the ITU says that in 2025, 46% of the world’s 3.6 billion jobs were Internet-dependent, including more than 80% of the 630 million highest income jobs.

Article 24

Everyone has the right to leisure.

Of the 35 billion person-hours of leisure time which the OECD believes the world enjoys each day, 44% are now delivered directly to the user via the Internet... these include streaming media such as video and music, as well as interactive gaming and social-media use. More than 70% (including backhaul of broadcast media, digital transmission of cinema to theaters and pre-press to printers, download of games which are played offline, online transaction processing for gyms, sporting events, theater, and dining) now require the Internet for back-end service delivery, so a portion of the leisure time of the world's 2.17 billion unconnected people is also impacted by Internet infrastructure availability.

Article 26

Everyone has the right to education. Technical and professional education shall be made generally available and higher education shall be equally accessible to all.

UNESCO estimates that 20-25% of the world's primary and secondary students, and more than 90% of university students are dependent on the Internet for pedagogy. More than 95% of universities globally are now dependent upon the Internet for registration, journal access, and tuition payment systems.

During the Covid pandemic, 91% of countries used online platforms to deliver distance learning, although those platforms were only accessible to 25% of students.

Government-certified adult technical and professional education is available in 184 countries, and more than 250 million adults complete some form of ongoing education certificate each year, including 62 million in China alone. At least 60% of that is delivered via the Internet. 75% of surveyed adult learners report test disruption during Internet outages.

Article 27

Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.

Increasingly, the “cultural life of the community” is found online, with 6.1 billion people (80.5% of people 16-and-over) now utilizing social media at least once per month.

Whatever their aesthetic merits, the more than eight trillion hours of media streamed each year (2.6 hours/day/person) should certainly be understood to be “enjoyment of the arts.”

Further, to use the Internet *is* “sharing in the benefits of scientific advancement.”

Article 28

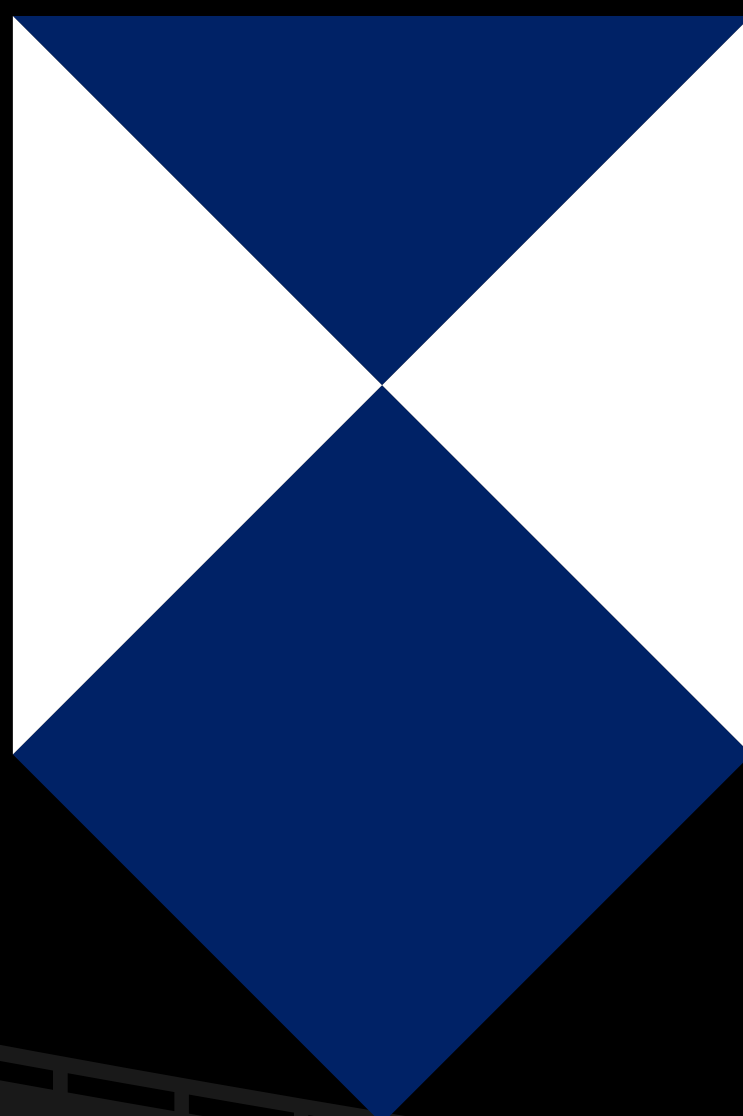
Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized.

Article 30

Nothing in this Declaration may be interpreted as implying for any State, group or person any right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedoms set forth herein.

How is Protection Signaled?

Cultural Heritage



1954
Hague Convention

UNESCO

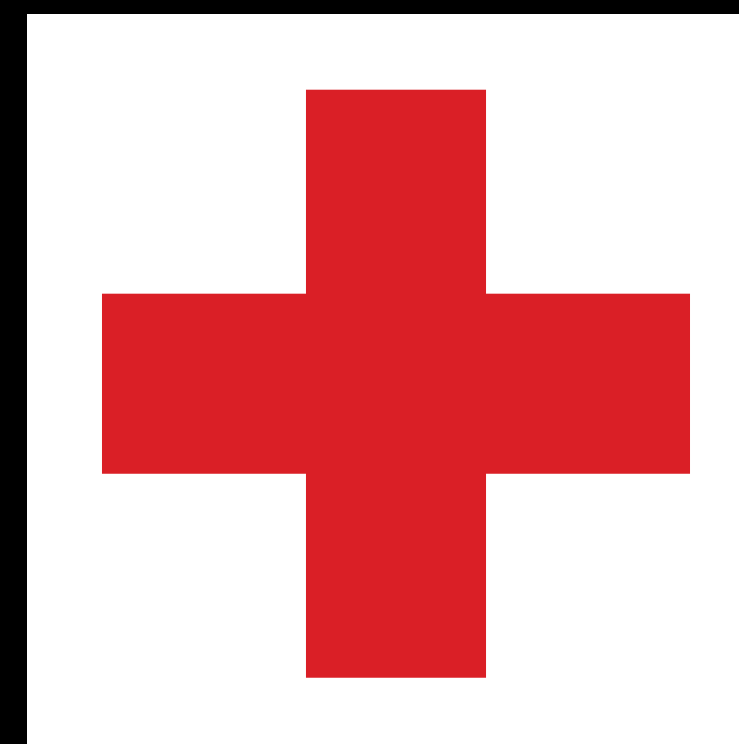
Civil Defense



1977
Additional Protocol I
Geneva Conventions

ICDO

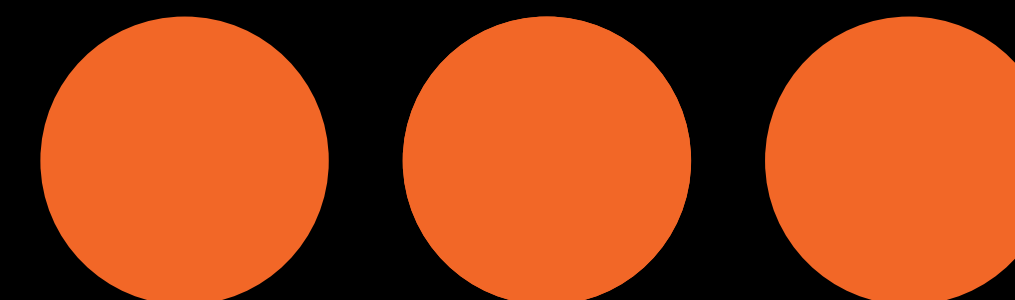
Medical Services



1949
Geneva Convention

ICRC

Dangerous Forces



1977
Additional Protocol I
Geneva Conventions

Individual Operators

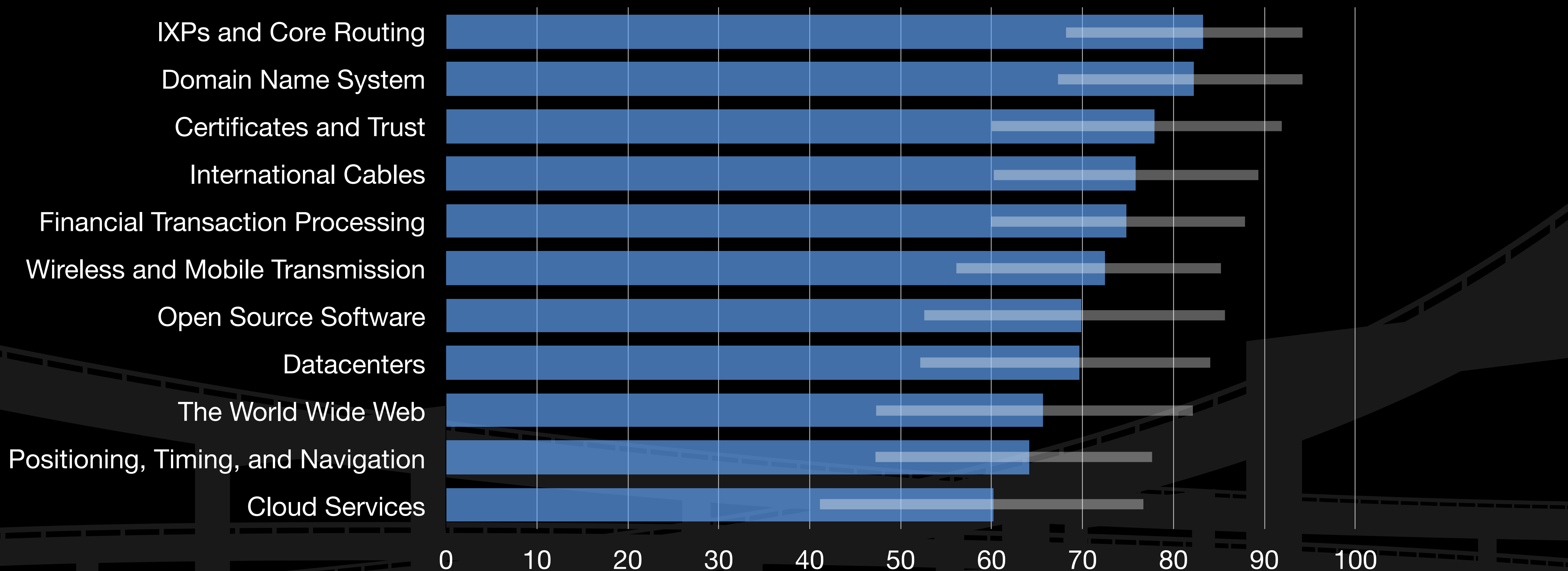
How is Protection Enforced?





What constitutes “Critical Communications Infrastructure?”

Survey of Infrastructure Experts by the Global Commission on the Stability of Cyberspace Critical Infrastructure Assessment Working Group (2017)



Thank you. Questions?

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