



Security Conference

Export controls Wassenaar and beyond

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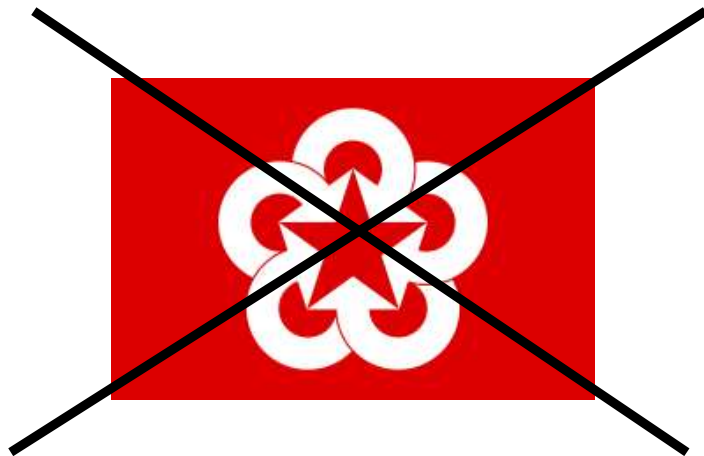


17/10/2023



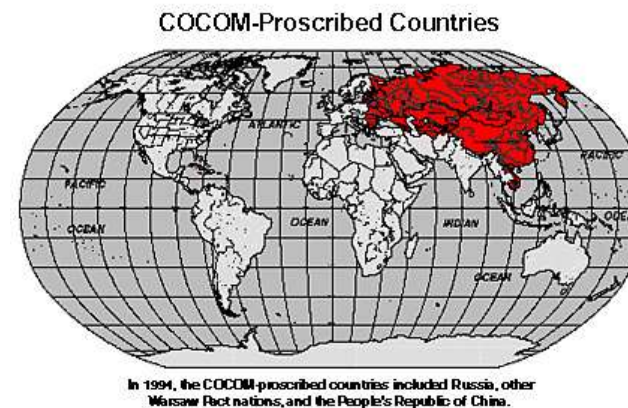
Why export controls?

- Cold war – Keep Comecon, i.e. Soviet Union and allies, behind
- Post cold war – Prevent military destabilization and terrorism
- Tomorrow – Protect Human Rights



CoCom

- 1949 – 1994
- 17 member states – NATO countries, Australia, Japan
- Embargo on Comecon countries
- Both military and dual use lists – including cryptography
- Enforcement through blacklisting



1994 – 1996



- CoCom goals no longer relevant – new threats
- Wish to engage more countries, including former targets, e.g. Russia
- Need for higher transparency and level playing field
- Decision March 1994 in Wassenaar, NL, to continue using CoCom control lists

Wassenaar Arrangement



- Since 1996
- Today 42 member states
- Based on CoCom lists including cryptography
- Member states include lists in national (or EU) legislation
- Control ≠ Prohibition
- Enforcement national responsibility

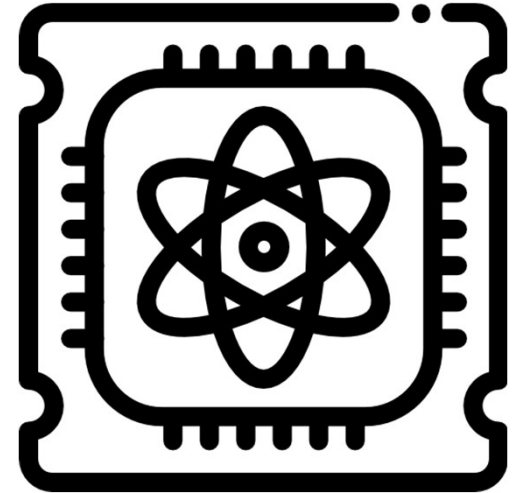
Cryptography control exceptions

- Mass market items
- Short key algorithms
- Authentication, signatures, ...
- Ancillary cryptography
- Bluetooth, DECT, ...
- Some OAM crypto
- Bespoke IoT components



Future Wassenaar controls?

- Quantum computers
 - Low noise amplifiers
 - Cryogenic cooling
 - Complementary Metal Oxide Semiconductor (CMOS) integrated circuits
 - Isotopically enriched Silicon and Germanium
- Laser communication
- AI



What about TETRA and Wassenaar?



- ~~“Wassenaar required weak algorithms”~~
- Wassenaar requires nothing. Wassenaar only decides items that member states are supposed to put under control.
- ~~“TEA1 was weakened to stay below control limits”~~
- No, TEA1 was finalized in 1996. Control limits were first introduced in 1998.
- ~~“Today TEA1 can be freely exported since it is (allegedly) weak”~~
- No, control limits only based on key length, not algorithm strength.



Security Conference

... and beyond

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17/10/2023



WA challenges and limitations

- Current membership
 - Wassenaar operates by consensus
 - Outreach and inclusion
- Intangibles
 - Harmonise framework for Cloud services – **standards help!**
 - Harmonise framework for standards discussions
- Pace and source of innovation



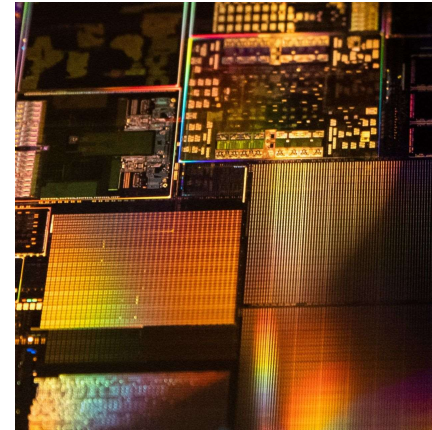
Current policy concerns

- Economic security, strategic autonomy
- Civil-military fusion
- Human rights and humanitarian law violations

Current responses

Advanced semiconductor and supercomputing

- US adopted controls first
 - Advanced semiconductor
 - To China
 - Semicon and supercomputing fabs
 - Awaiting updated rule with Iaas provisions
- NL and JP adopted controls too
 - Semiconductor manufacturing equipment
 - Not related to one country



Human Rights

- EU article 5 on exports of unlisted cybersurveillance items
- US UN guiding principles on export of surveillance to government
- Export Control Human Rights Initiative

Rise of Sanctions regime

Effectiveness and *complianceability* of controls

<p><u>End-use/r-based controls</u></p> <ul style="list-style-type: none">• Subjective, unleveled playing field and effectiveness• Requires manual intervention and skilled personnel• Governments and controlling authorities have better quality data and insights	<p><u>List-based controls</u></p> <ul style="list-style-type: none">• Multilateral controls are more effective• Must be based on clear cut control criteria – standards help!• No negative unintended effect on technology• Some controls also need to be removed
<p><u>Listed entities and persons controls</u></p> <ul style="list-style-type: none">• Objective, possible automation• Room for more global adoption and harmonization	<p><u>Duplicate jurisdiction</u></p> <ul style="list-style-type: none">• Allies should work towards reducing extraterritorial controls between each other to lighten compliance burden for administrations and industry.• Multiplication of legal instruments other than export controls and sanctions



The bridge to possible