RIPE89 Prague

What could possibly go wrong
with FTTH – ask the Swiss!

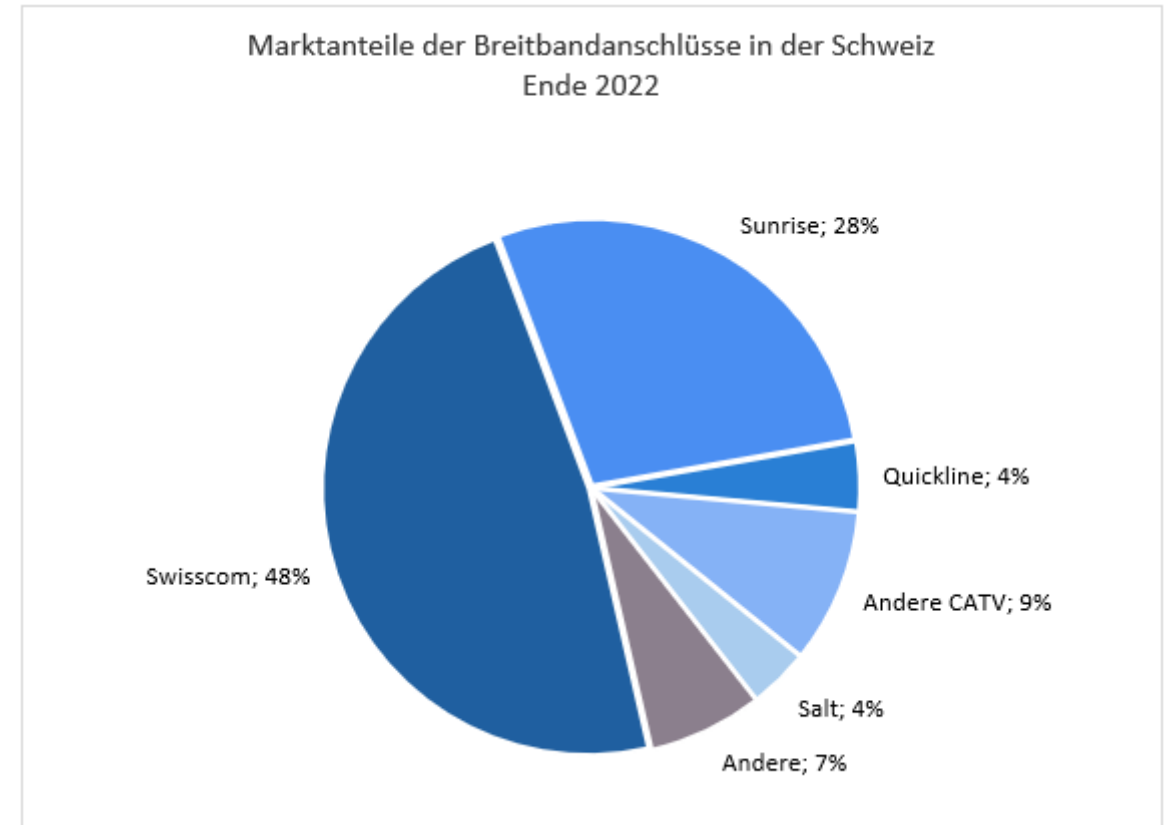Init7

Switzerlands Telecom Market

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Dominated by three Telcos

Mobile Market
Share 2022

Swisscom (Incumbent)	56.6%
Sunrise (Merger Sunrise/UPC)	23.9%
SALT (ex Orange)	17.3%
Other MVNO	2.1%

Marktanteile der Breitbandanschlüsse in der Schweiz Ende 2022

- Sunrise; 28%
- Quickline; 4%
- Andere CATV; 9%
- Salt; 4%
- Andere; 7%
- Swisscom; 48%

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About Init7
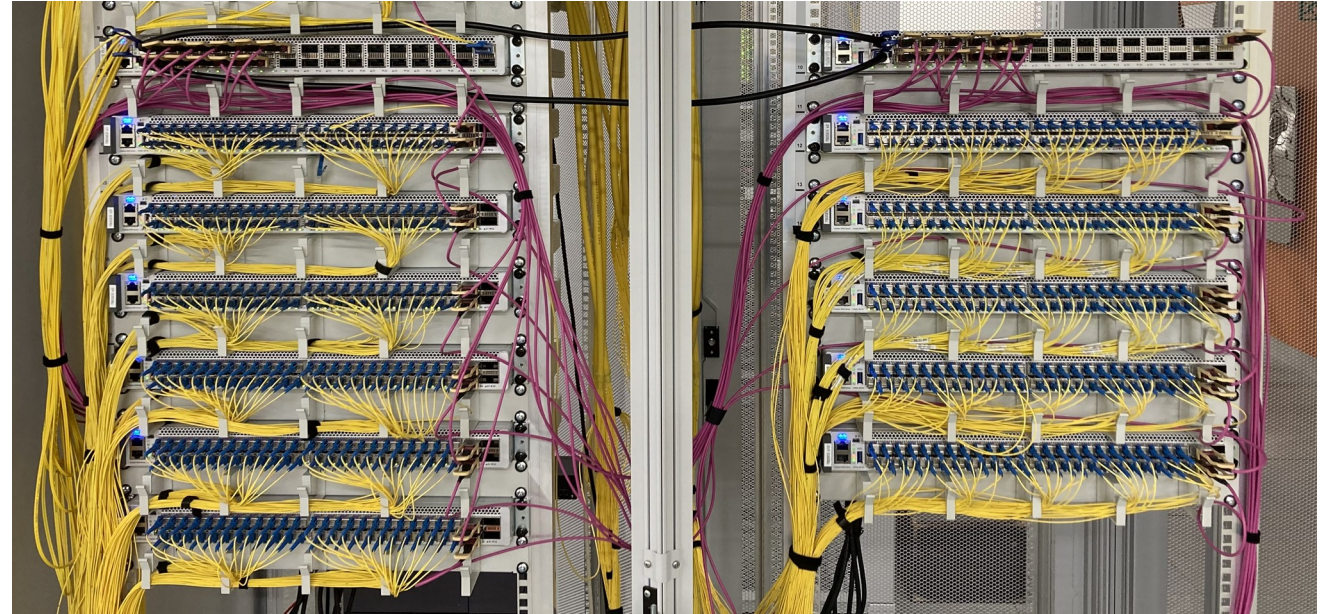
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About Init7

Founded in year 2000, Init7 is one of the last remaining independent Internet Service Provider in Switzerland, located in Winterthur.

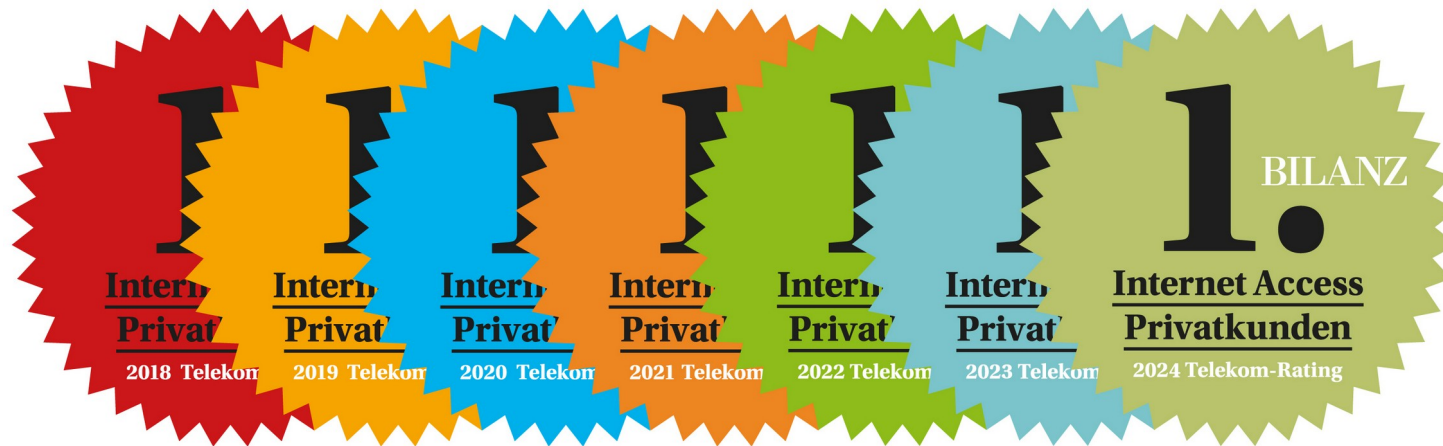Peter elektro, CC BY-SA 3.0, via Wikimedia Commons

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It's all our gear: FTTH infrastructure

- AS13030 is our IP backbone

- we operate a nationwide FTTH infrastructure with currently about ~320 pops, by 2028 we expect >700 pops

- Layer 1 fiber from the incumbent or the utility (unbundled fiber)

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Bilanz Telekom Rating

7 times (2018 – 2024) winner of the category «Best Internet Provider Residential Customers».

The Cast

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Swiss politics crash course 🇨🇭

Executive	Federal Council	7 members, annually rotating presidency, concordance government (4 largest parties). Each Federal Councillor heads a department consisting of various federal offices and state secretariats.
Legislative (two chambers)	National Council Council of States	- 200 National Councillors, representation of the people, seats per canton, proportional to population (Canton Zurich 36, Canton Glarus 1) - 46 members of the Council of States, representation of cantons (2 per canton)
Judiciary	Federal Court (BGER)	- BGER in Lausanne is the court of last resort - Lower courts: cantonal supreme courts, Federal Administrative Court BVGER

Init7 - What could possibly go wrong with FTTH - ask the Swiss!   October 2024

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DETEC / OFCOM

Federal Department of the Environment,
Transport, Energy and Communications
(DETEC)
- Federal Councillor Albert Rösti (SVP, since 2023)

Federal Office of Communications:
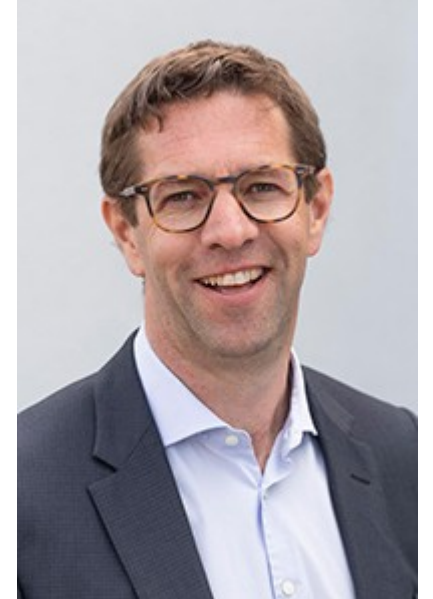- Director: Bernard Maissen

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ComCom

The Federal Communications Commission (ComCom) is the independent regulatory authority for the telecommunications market.

President since 2024: Christian Martin (ex Cisco, ex Google)

Legal basis: Telecommunications law (Fernmeldegesetz)

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Competition Commission (COMCO)

ComCo consists of 14 members which are elected by the Swiss Government. Current President: Laura Melusine Baudenbacher.

Legal basis: Antitrust law (Kartellgesetz)

DISCLAMIER: Please distinguish between ComCom (telecommunications law) and COMCO (antitrust law)!

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Telecom Liberalisation

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Regulation history: the end of the PTTs

- late nineties: all over Europe the former usually state controlled monopoly PTT (Post, Telephone, Telegraph) became independent, usually with a separation of post and telco services

- new competing telcos were entering the market, competing the incumbent with cheaper / better telephony and internet services

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Telco and DotCom Hype and Crash

- a lot of investments, new telcos and carriers established. Big money fantasies, many went bankrupt

ISION INTERNET

kpn Qwest

Cable & Wireless Communications

Ebone™

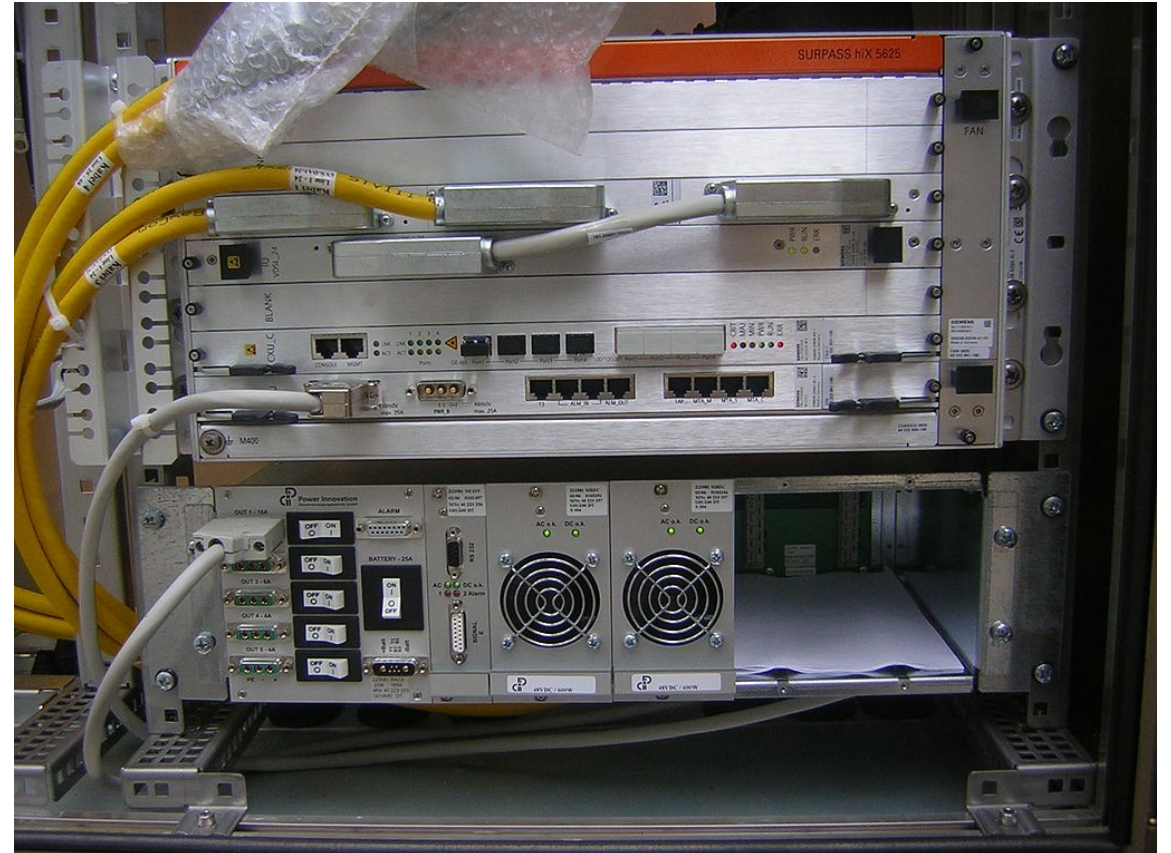WORLDCOM MCI

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Copper Unbundling

- to grant a half way fair market situation
for the new competitors some infrastructure
of the incumbent got regulated

- in Switzerland (~1999, ~2007):
Voice interconnection, access to central offices
(space & power), access to ducts which allowed
the installation of fiber cable without digging,
copper cable unbundling

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Alternative Telcos installed DSLAM

- some alternative telcos installed their own DSLAM to provide ADSL services (up to ~25 Mbps)

- unbundling peak was reached around 2012 with about 300k unbundled copper subscriber lines

(Image source: Wikipedia)

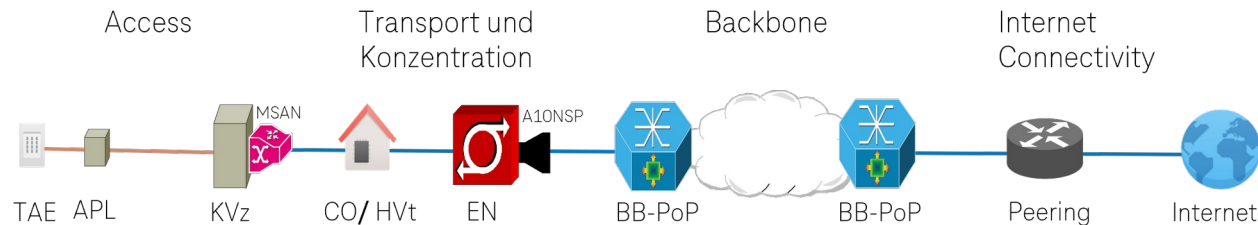Init7

G.Fast made unbundling impossible

- Higher DSL bandwidth (up to 500Mbps) requires one single DSLAM per copper bundle. Otherwise devices would interfere (Crosstalk)

- technical progress ended physical unbundling → Bitstream access

(in Germany Layer 2 BSA – diagram borrowed from Deutsche Telekom)

No Bitstream in Switzerland!

- **Bitstream requires a law change!**

- 2007 the Swiss telecom law got revised.
**Unlike other countries Bitstream was not
forseen permanently.**

- Copper ULL remains regulated, but is useless
today due to bandwidth limitation which
can't compete anymore – ULL based
subscriptions have declined to almost zero

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FTTH rollout

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FTTH rollout starts ~2006

- mostly in urban areas

- public votes legitimized the utilities to build
fiber, i.e. city of Zurich invested ~600 Million CHF.
Project is done, almost 100% coverage, ~280000
FTTH connections built

- from 2008: to avoid every stakeholder in this
field to invent the wheel again, a FTTH
roundtable was created. The lead was taken
by OFCOM.

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FTTH Roundtable (2008-2012)

FTTH roundtable has bee initiated by OFCOM.

- 4-fiber strands to each household

- Open Access Layer 1, P2P network topology

- one numbering scheme for everybody, definition of OTO (optical termination outlet), BEP (building entry point), Drop, Feeder etc.

B.777.777.777.X

1 2   3 4

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2019: Regulation failed again

- Although the legislator wants a free and unhindered telecommunications market, there is not enough political will to guarantee it with appropriate laws

- 2019 (in force since 2021): **Technology agnostic regulation** (including FTTH) **has not been adopted**

- Why? **The incumbent pays a yearly dividend of around CHF 580 Mio to the Swiss governement.**

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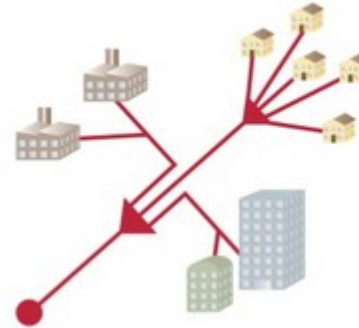**Change of network topology**

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Feb 2020: 1.5 Mio FTTH announced

- shortly after the avoided regulation, Swisscom announces to build 1.5Mio FTTH until 2025
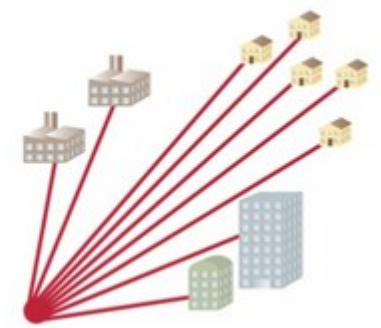
- New network topology:
P2MP* (PON) instead of P2P (AON)
in contrary to the agreed round table standard, which was later considered «a legal obligation»

Point to Multi-Point [P2MP]

Point to Point [P2P]

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#Glasfaserstreit (fiber dispute)

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3 weeks later: ComCo!

- only 3 (three!) weeks later ComCo starts preliminary investigation. The case is being named
«32-0274 Netzbaustrategie Swisscom»
(network strategy)

- Swisscom is a good „client" of ComCo for more than two decades and was sanctioned with several cartel law fines

- Example: CHF 186 Mio for margin squeeze wholesale broadband

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Init7 files a complaint (Sept. 2020)

- When it became more and more obvious that Swisscom was building P2MP topology which couldn't be unbundled anymore, Init7 filed a complaint at ComCo in September 2020.

Precautionary Measure of ComCo

- December 14, 2020, only three month after filing the complaint, ComCo ordered a precautionary measure against Swisscom and declared to build and market any P2MP FTTH illegal.

- Goal: as the case likely will take years, Swisscom should not be able to make a «Fait Accompli» during the procedure

Swisscom is appealing

- Swisscom is appealing COMCO's decision to the first appeal instance, the Federal Administrative Court in St. Gallen.

- The Federal Administrative Court invites to a hearing in March 2021: five representatives each from COMCO and Swisscom as well as Init7 represented by Simon Schlauri (lawyer of Init7) and myself.

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Swisscom ignores COMCO

- Despite the precautionary measure ordered by WEKO, Swisscom continues to build P2MP unperturbed.

- In total, well over 750,000 FTTH connections have been built by Swisscom using the illegal construction by Swisscom.

- Exception: COMCO tolerates a P2MP construction method for new buildings that have no alternative (CATV, copper).

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Federal administrativ court judgement

- Sept. 30, 2022 The judgement consists not less than 219 pages!

- a 100% victory for COMCO and Init7 🎉

813. Swisscom hat daher im Jahr 2020 trotz Kenntnis des kartellrechtlichen Untersuchungsverfahrens mit dem Ausbau ihres FTTH-Netzes gemäss Netzbaustrategie 2020 begonnen und die weitere Fortsetzung dieses Ausbaus für die weiteren Jahre geplant und vorbereitet. Auch die ausdrückliche Anzeige eines Konkurrenten im September 2020 und die weiteren Untersuchungshandlungen durch die Wettbewerbsbehörden konnten Swisscom von diesem Vorhaben nicht abbringen. Demzufolge hat Swisscom die Umsetzung ihrer Netzbaustrategie 2020 in voller Kenntnis des Risikos eines Erlasses von vorsorglichen Massnahmen vorgenommen.
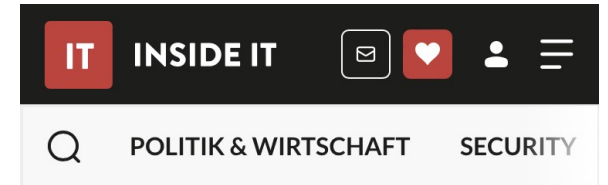
XII. ZUSAMMENFASSUNG

832. Die summarische Prüfung der angefochtenen Verfügung aufgrund der von der Beschwerdeführerin eingereichten Beschwerde hat ergeben, dass die Umsetzung der Netzbaustrategie 2020 durch Swisscom eine Technologieeinschränkung gemäss Art. 7 Abs. 2 lit. e KG darstellt. Die Einschränkung des anerkannten Glasfaserstandards für den Ausbau von FTTH-Netzen mit einem Vierfaser-Modell und P2P-Topologie lässt sich auch nicht durch einen der vielfältigen Aspekte rechtfertigen, die von der Beschwerdeführerin für die Abweichung vom Glasfaserstandard geltend gemacht werden.

Demnach erkennt das Bundesverwaltungsgericht:

1.
Die Beschwerde wird abgewiesen, soweit sie nicht als gegenstandslos geworden abzuschreiben ist.

2.
Der Beschwerdeführerin werden die Verfahrenskosten in Höhe von 50'000.– CHF auferlegt. Hierauf wird der bereits geleistete Kostenvorschuss in Höhe von 15'000.– CHF angerechnet.

3.
Eine Parteientschädigung zu Gunsten der Vorinstanz und der Init7 (Schweiz) AG wird nicht ausgerichtet.

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Swisscom stops 93000 marketable FTTH

- October 2021, following the Federal administrative court ruling, Swisscom stops the marketing of around 93000 illegally illegally built FTTH connections.

IT INSIDE IT

POLITIK & WIRTSCHAFT   SECURITY

Swisscom hängt 93'000 Haushalte vom Glasfasernetz ab

Von Reto Vogt, 27. Oktober 2021 um 17:39

TELCO   INIT7   SWISSCOM

FIBRE TO THE HOME   GLASFASER

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One year later: Federal Court

- One year later, the Federal Supreme Court confirms the previous instances of the COMCO and the Federal Administrative Court. Swisscom loses across the board.

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COMCO decision on main proceedings

- November 20, 2023: COMCO holds a hearing hearing with all parties to the proceedings conducted

- December 4, 2023: COMCO comes to the decision, but does not publish it until April 25, 2024

- Init7 again wins by 100%. COMCO decision comprises >200 pages

- Antitrust fine of ~CHF 18.4 million against Swisscom

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Approximately 750'000 FTTH illegal

- The case is still pending at Federal Administrative Court and could again be disputed afterwards. I suppose the fine is going to be discussed

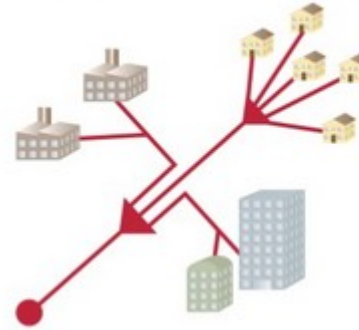- Main result: all illegal P2MP FTTH must be converted to P2P or taken out of service by the end of 2025

- Swisscom announced that they will change the network topology again back to P2P and accept the ruling
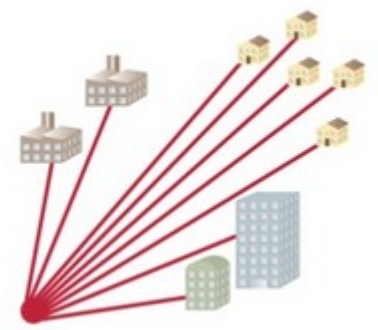
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P2MP is history

- Since Swisscom has given in, the question of whether P2P or P2M can be built is off the table.

- Only Open Access with four fibres, at least one of which must be connected continuously to the local central office.

Point to Multi-Point [P2MP]

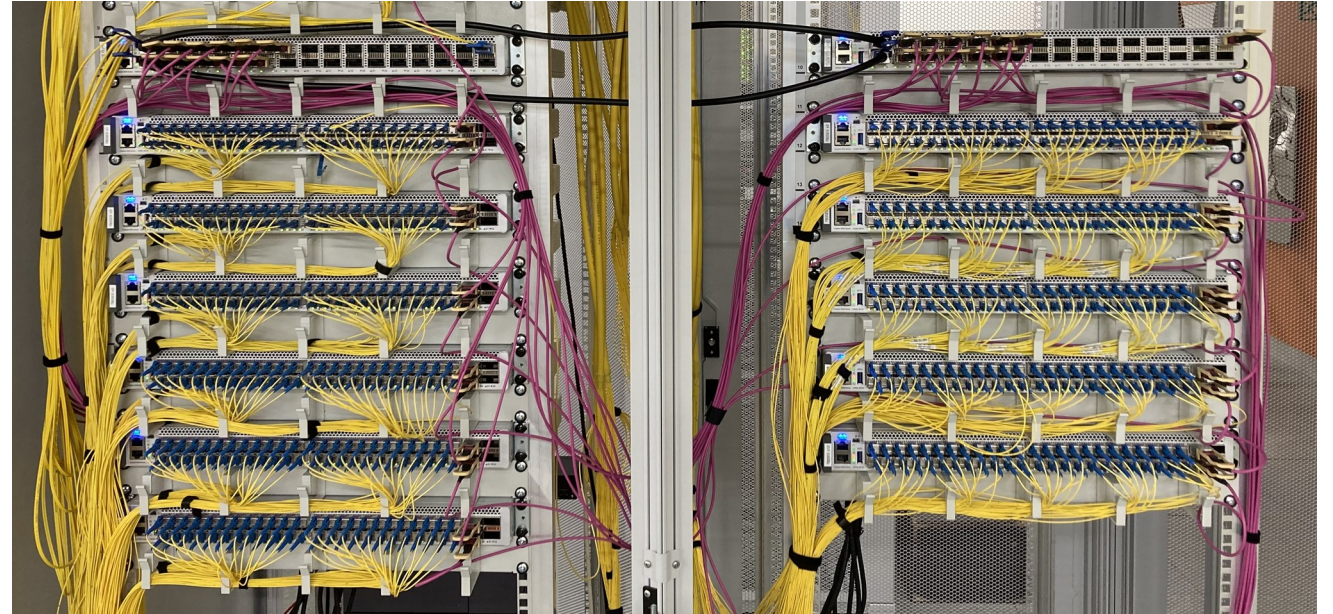Point to Point [P2P]

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New Opportunities

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XGS-PON on P2P, nevertheless

- Competition on Services! All providers are free to choose their technology

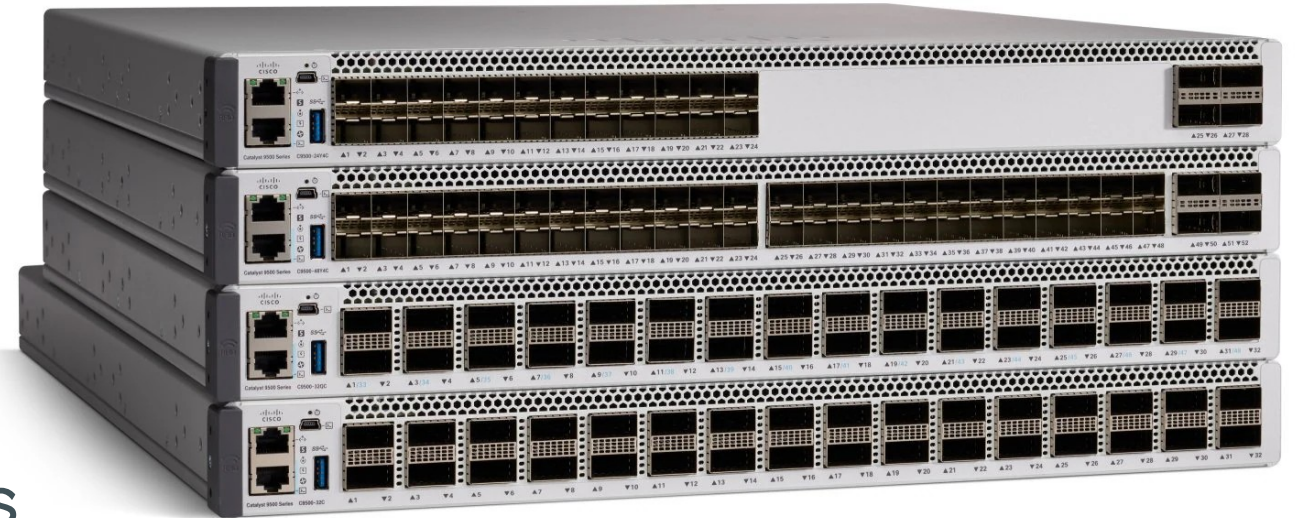- Most providers are rolling out XGS-PON gear (SALT, Sunrise, Swisscom nationwide)

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P2P Ethernet

- Some provider using Ethernet gear

- no doubt about: **XGS-PON is cheaper per subscriber than Ethernet**
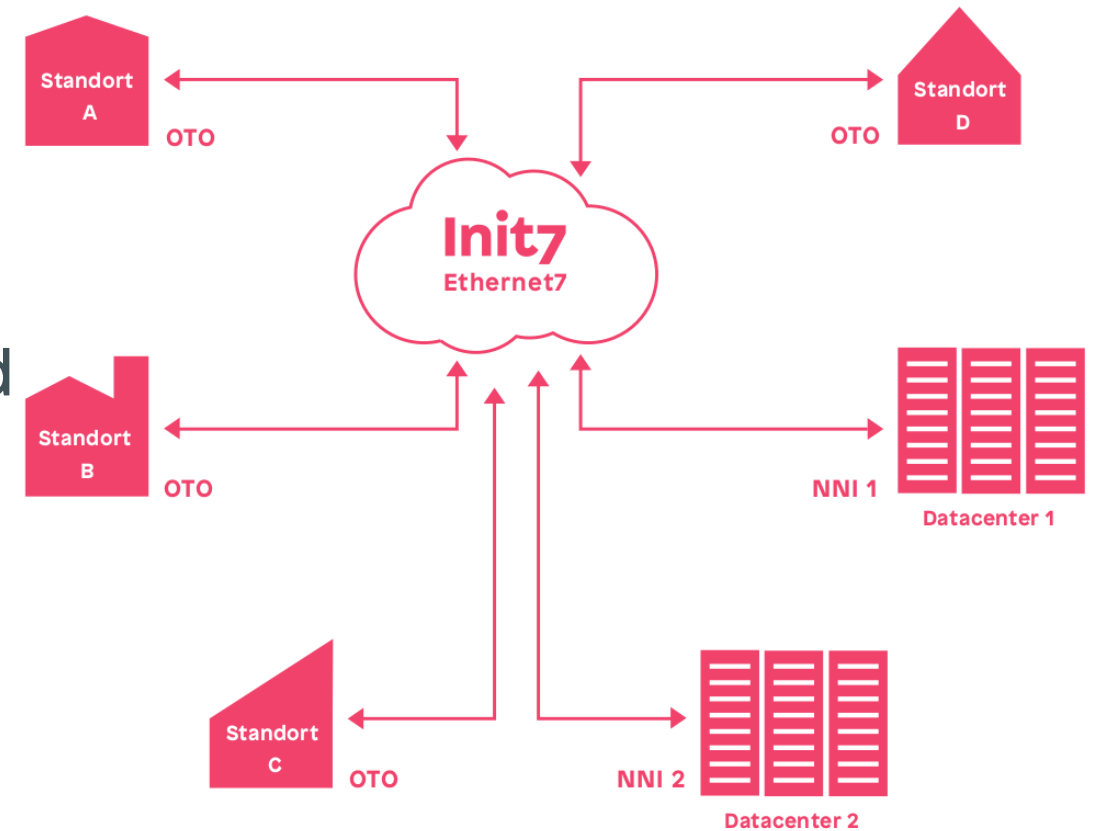
October 2024

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Latest Ethernet Gear

- No secret: **Init7 is using Cisco C9500 series**

- not really meant for FTTH, rather data center switching

- unlike other vendors, MPLS is supported on cheaper switches too

- more details: RIPE84 connect working group presentation https://ripe84.ripe.net/archives/video/797/
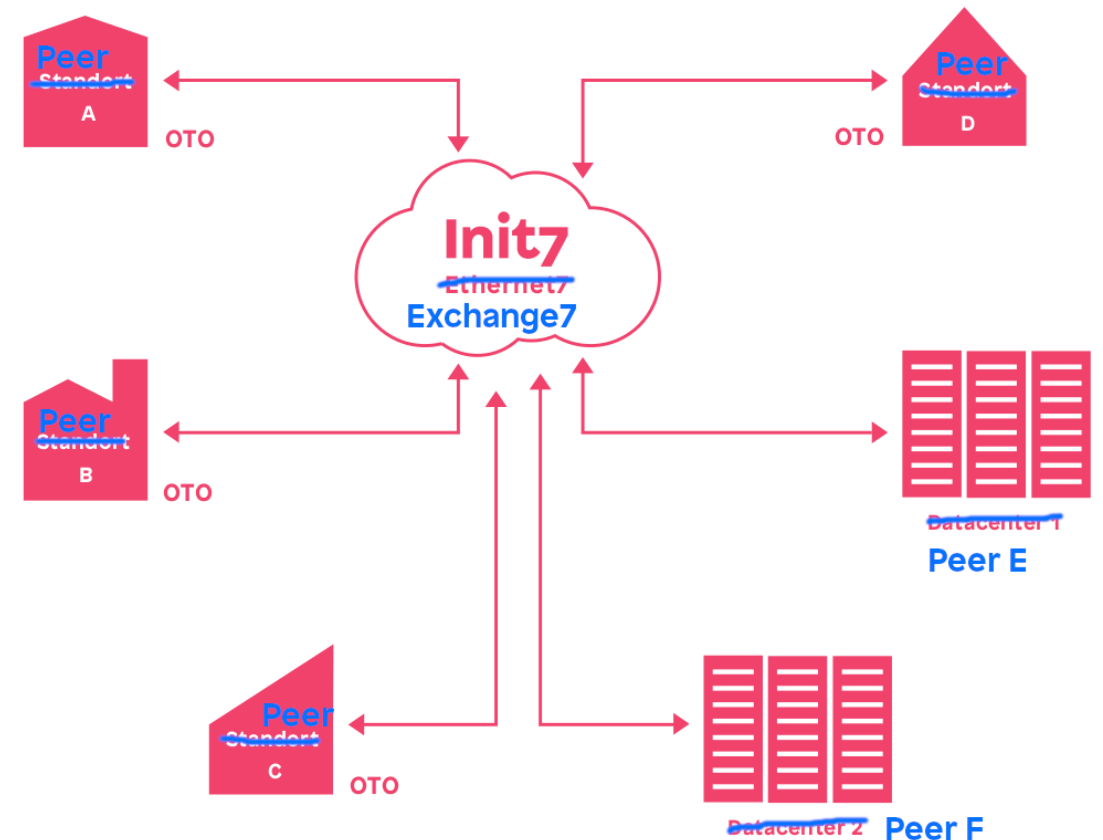
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Ethernet7

- new wholesale service Ethernet7

- Carrier Ethernet Service alike,
MEF (Metro Ethernet Forum) standard

- CES of the incumbent is available
since ~2006 (?)

- little competition ever since in the
CES market – today 10 Mbps for as
as much as ~CHF 310 MRC in rural locations

Exchange7

- new experimental Switzerland wide Internet Exchange

- ~2 Million OTOs capable to connect

- on-net in most Swiss data center

- RIPE NCC IXP allocation received:
193.34.198.0/26
2001:7f8:15c::/48

Blog «Fiber Optic Dispute»
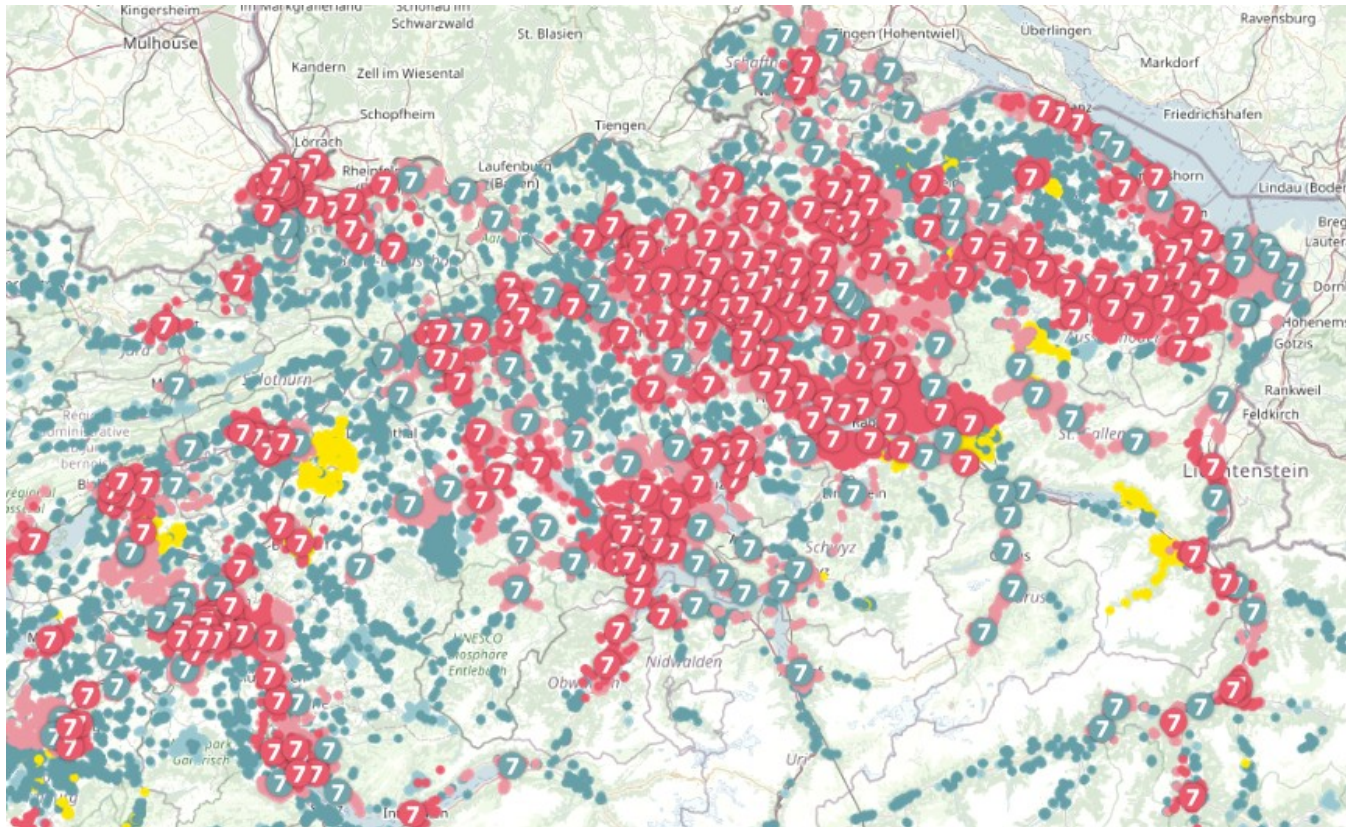
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Blog «Fiber Optic Dispute»

(English)
https://blog.init7.net/en/die-glasfaserstreit-geschichte/

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Fiber Map

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Visualisation FTTH rollout

- Fiber and Pop map (daily updated) https://ftth.init7.net

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Contact

Init7

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Questions?

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THERE
IS NO
PLACE
LIKE
127.0.0.1