

REPORT 2018

of the .ch Registry

SWITCH



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Urs Eppenberger
Head of Registry, SWITCH
(photo SWITCH)

Customer satisfaction

What makes a good registry?

After decades of experience as a registry, you develop a very good sense for the needs of your customers, the registrars. But is this sense really accurate? We wanted to find out for sure, so we conducted an image and satisfaction survey of the registrars.

42 out of 119 registrars completed the survey. A response rate of 35% is considered extremely high for this type of survey.

On a scale of 1 (very unsatisfied) to 5 (very satisfied), the technical and administrative services received a score of 4, and the registry's customer service even managed a score of 4.5. Competence, fast accessibility and quick resolution of enquiries stood out in particular. And how do the registrars see SWITCH as an organisation? SWITCH is very closely associated with the following attributes: trustworthy, secure, stable, competent, friendly, quality-conscious, cooperative.

All SWITCH employees can be very proud of these results. These values are demonstrated in customer support, during courses and at conferences – anywhere people interact directly.

SWITCH would like to take this occasion to sincerely thank the registrars. Our partnership is characterised by mutual appreciation and trust.

The registrars and registry form a strong partnership to ensure a secure, stable internet in Switzerland.

Battling cybercrime

In 2018, we continued our measures to combat cybercrime.

PHISHING

Phishing remained a problem in 2018. Cybercriminals use both compromised websites as well as domain names employed solely for phishing. The partnership with MELANI as a recognised organisation has come into play. The Cybercrime division of the Zurich Cantonal Police Force is now included as well. This has led to a heavy increase in the number of domain names blocked in accordance with OID Art. 15.

DRIVE-BY/MALWARE

The use of drive-by and malware has declined since the previous year.

Website: <https://www.switch.ch/saferinternet>

SWISS CORRESPONDENCE ADDRESSES

The number of requests for Swiss correspondence addresses from Swiss authorities under OID Art. 16 increased slightly.

Here, SWITCH works closely with various bodies to speed up detection of improper registrations with false or stolen identities, and to check the identity of holders.

It should be mentioned that the Zurich Cantonal Police Force has started reporting fraudulent web shops under OID Art. 15.1a so that they are taken down immediately.

→ *Statistical indicators on the battle against cybercrime can be found on page 24.*

Dealing with cases of suspected abuse

REQUESTS FROM RECOGNISED AUTHORITIES

The two accredited authorities, MELANI and the Zurich Cantonal Police Force (KAPO), submitted 886 requests for immediate blocking (technical/administrative) under OID Art. 15.1.

		2018
Requests		886
Unanswered requests	Domain names deleted	885
Answered requests	Domain names reactivated	1

ADMINISTRATIVE ASSISTANCE

At the request of intervening Swiss authorities acting within their areas of responsibility, 5,993 requests were submitted for Swiss correspondence addresses under OID Art. 16.3.

		2018
Requests		5,993
Unanswered requests	Domain names deleted	5,511
Answered requests		482

DNSSEC and security

DNSSEC TRAINING

In April and May 2018, SWITCH-CERT conducted five DNSSEC training sessions together with PowerDNS to promote the use of DNSSEC. Each session consisted of a half-day introduction to DNSSEC and technical training on the PowerDNS server.

The attendees, all of whom were from Switzerland, represented registrars, hosting providers, universities and industry. A total of 84 participants from Zurich, Bern, and Geneva signed up.

SIWECOS TRAINING

SIWECOS stands for ‘Secure Websites and Content Management Systems’. In collaboration with SWICO and CMS Garden, SWITCH conducted two SIWECOS training sessions in December.

14 attendees from the hosting/ISP sector attended each of the workshops in Bern (5 December 2018) and Zurich (6 December 2018). The attendees learned how to protect unpatched CMS systems against attacks using ModSecurity and CMS Garden rules.

Website: <https://siwecos.de>

SECURITY HACKATHON

SWITCH hosted the Swiss Open Source Security Hackathon from 7 to 9 August. The event was organised in conjunction with the Open Source Security Hackathon hosted by CIRCL in Luxembourg at the same time.

Hackers and researchers from universities, registries and private companies took part in the event.



Participants at the Open Source Security Hackathon 2018 in Zurich

Security Awareness Days

SECURITY AWARENESS DAY

On 24 October 2018, SWITCH hosted the first Security Awareness Day in Bern. The purpose of the program is to raise awareness for security-related issues in the SWITCH community while also sharing ideas and encouraging communication and interaction.

A total of 28 representatives from universities and hosting providers/registrars took part.

SWISS WEB SECURITY DAY

On 18 October 2018, SWITCH organised the second Swiss Web Security Day in collaboration with Swico and SISA. The goal of the meeting was to raise awareness of security issues.

This year's event was held in Bern. There were 80 participants – registrars, web hosts, and representatives from associations, telcos, banks and public bodies.



WORLD PASSWORD DAY

In collaboration with SISA and as part of World Password Day, SWITCH launched a campaign on 3 May 2018 to raise awareness for the issue of password security.

The website www.stopthinkconnect.ch, which is dedicated to the topic of internet security, received a facelift. Postcards and stickers in five different languages (D, F, I, RM, E) were sent and handed out in Zurich, Winterthur and Bern. Recipients of the stickers and postcards included universities and OFCOM, as well as over 50 registrars.



Postcards and stickers for World Password Day

Community

SWISS DNSSEC PIONEER AWARD

The Swiss DNSSEC Pioneer Award is given to organisations and individuals that offer outstanding services related to the implementation and promotion of DNSSEC, and thereby make the Swiss internet safer.

The winner of the very first Swiss DNSSEC Pioneer Award was Geneva-based registrar Infomaniak. Infomaniak is the first registrar in Switzerland to sign newly registered domain names with DNSSEC as standard. By making this technical process available at a single click, Infomaniak has shown that it is implementing this technology for the good of its customers and of all Swiss internet users.

The award ceremony took place on 18 October 2018 during Swiss Web Security Day in Bern.



Urs Eppenberger, Head of Registry & Collaboration at SWITCH, presents Rene Luria, CTO of Infomaniak, with the Swiss DNSSEC Pioneer Award

Registry operations

SIGNATURE FOR .CH ZONE

The key signing ceremony for the .ch domain took place on 29 October 2018. The various key-holders share the responsibility. Olivier Girard will assume this role for OFCOM.

The 2018 key signing ceremony marked the switch from key algorithm RSA (8) to ECDSA (13). The transition began at the end of 2018 and was completed in January 2019. ECDSA signatures are smaller than RSA signatures while offering the same level of security.

ROOT KEY ROLLOVER

On 11 October 2018, ICANN switched the DNSSEC root key for the first time. We have been working with the operators of DNSSEC-validating resolvers for several months to ensure that the configurations have been updated for the switch. During the rollover, we monitored the situation and would have been able to help the institutions involved in case of problems.

Information from ICANN: <https://www.icann.org/resources/pages/ksk-rollover>

REGISTRY OUTAGE

On 8 August 2018, the registration system went down for six hours. The reason was a router failure. The details were clarified by OFCOM in the course of its supervisory activities, and the necessary measures were taken.

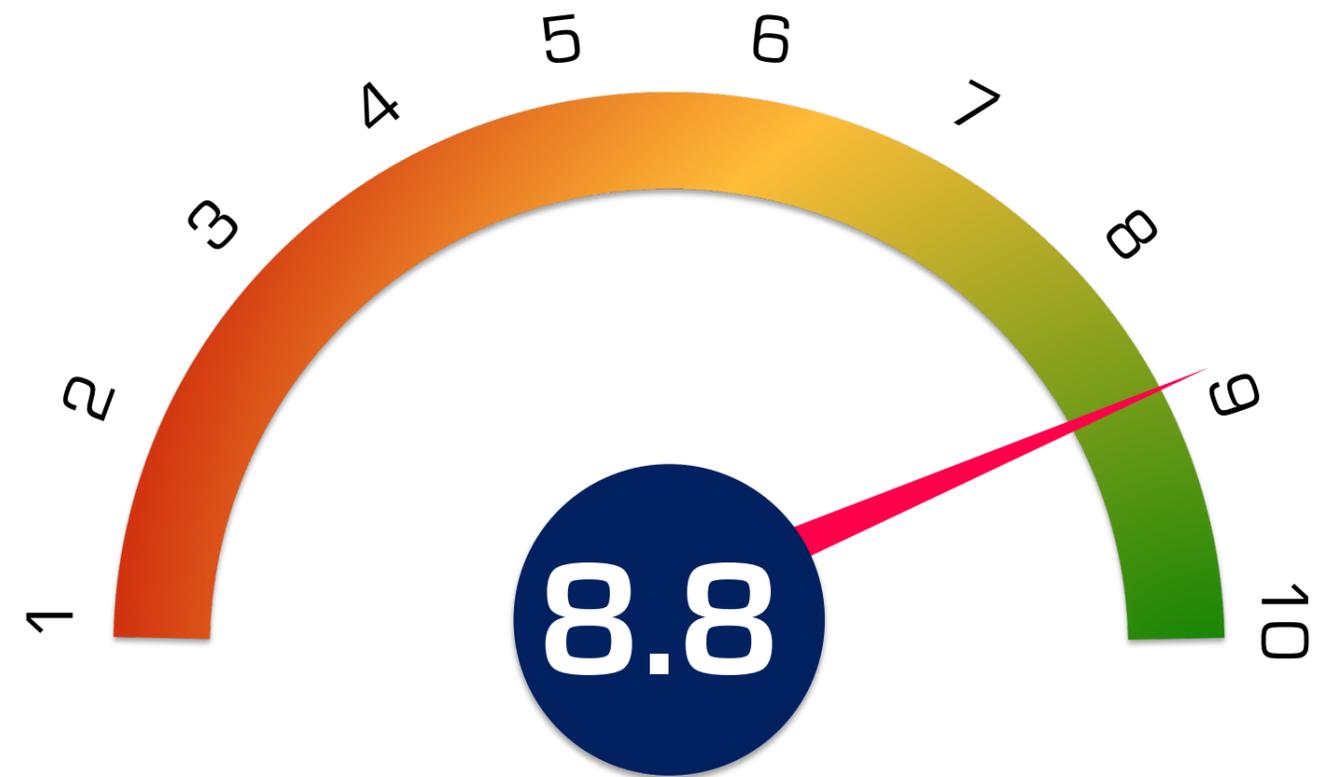
Customer survey

Registrar satisfaction

In September 2018, SWITCH conducted a customer satisfaction survey among all registrars. 42 of 119 registrars took part in the survey. The results can be considered as representative of a whole.

SUMMARY

- Among the registrars, SWITCH has a reputation characterised by high trustworthiness, security, stability, friendliness, quality focus, cooperation and competence.
- In a comparison with all major registries worldwide, SWITCH by far offers the best overall service, according to the survey participants.
- Overall, the registrars gave SWITCH a very high average score of 8.8 out of 10 points.



GENERAL IMPRESSION OF SWITCH

Question: Considering everything you know about SWITCH as a registry, what is your overall impression of SWITCH?

Scale: 1 = very negative; 10 = very positive

Hack the Hacker

The SWITCH Security Awareness Experience

SECURITY AWARENESS TRAINING

The security awareness training sessions SWITCH-CERT has been offering since August have been very well received.

16 sessions had been booked by the end of 2018. These also included the DENIC (.de registry), which invited two SWITCH-CERT experts to spend two days in Frankfurt.

ESCAPE ROOM

Based on the concept of an escape room, participants are put in a similar game environment in which they have to solve a puzzle as a team.

The gaming experience is integrated into an informative platform. During an introduction as well as a debriefing, participants learn and discuss essential knowledge about security.

Website: <https://swit.ch/hack-the-hacker>



Automated DNSSEC Provisioning

During the second half of 2018, the Automated DNSSEC Provisioning project was implemented to further improve the security of .ch and .li domain names. The goal is to increase acceptance and adoption of DNSSEC.

HOW IT WORKS

SWITCH collects special DNS records – the CDS records – of all registered domain names by scanning their name servers daily. CDS records can be generated automatically by current name server software. They tell the higher-level zone (in our case, .ch and .li) which data has to be provided in order to activate, renew or deactivate DNSSEC.

After successfully checking the CDS records that are found and following a three-day waiting period, we apply the changes and notify the appropriate registrar via EPP.

CDS Status Check

Status of CDS Publication

Enter a .ch or .li domain name here to check whether the DNSSEC related changes signaled via CDS are valid and will be published.

Automated DNSSEC Provisioning

With a CDS (Child DS) record, a name server operator can signal to the registry which DS record should be set for a domain name in the .ch or .li zone. Our system checks all registered .ch and .li domain names for the presence of CDS records on a daily basis. This process allows for fully automated DNSSEC bootstrapping, key rollover or removal. To take advantage of this process your DNS software needs to support the publication of CDS records.

Changes signaled via CDS records are accepted and published in the .ch or .li zone if these acceptance criteria are met:

- A published CDS record set must not change for three consecutive days.
- A published CDS record set must not change for at least three verification runs.
- A CDS record set is only accepted if it does not break the chain of trust.

For bootstrapping DNSSEC, the following additional requirements apply:

- All authoritative name servers assigned to a domain name in our database are checked on all their IP addresses.
- These name servers must respond with a consistent result.
- The DNS query is sent over TCP only.

Website for checking the status of domain names: <https://www.nic.ch/cds>

RDAP

Replacement for the WHOIS server

SWITCH developed an RDAP server and put it into operation during the fourth quarter.

RDAP stands for Registration Data Access Protocol, which is the successor to the very old Whois protocol. Unlike a Whois server, which allows for fully anonymous and unencrypted access, an RDAP server makes it possible to create individual users who can be assigned different privileges.

The RDAP server can be used to provide authorities recognised by OFCOM in the fight against cybercrime a way to securely access the registry database.

When querying the registration data of a domain name, anonymous users will only see a few technical details, but no information about the holder.

Website: <https://www.nic.ch/whois/rdap>

```
{
  "rdapConformance": {
    "rdap_level_0"
  },
  "notices": [
    {
      "title": "Acceptable Use Policy (AUP)",
      "description": [
        "This information is subject to an Acceptable Use Policy."
      ],
      "links": [
        {
          "rel": "alternate",
          "type": "text/html",
          "href": "https://www.nic.ch/terms/aup/"
        }
      ]
    }
  ],
  "objectClassName": "domain",
  "ldhName": "switch.ch",
  "switch_name": "switch.ch",
  "handle": "switch.ch",
  "entities": [
    {
      "objectClassName": "entity",
      "roles": [
        "registrar"
      ],
      "vcardArray": [
        "vcard",
        [
          {
            "version",
            {
              "text",
              "4.0"
            }
          ],
          {
            "fn",
            {
              "text",
              "Gandi SAS"
            }
          ],
          {
            "kind",
            {
              "text",
              "group"
            }
          }
        ]
      ]
    }
  ]
}
```

```
curl: (3) Port number ended with ' '
{"rdapConformance":["rdap_level_0"],"notices":[{"title":"Acceptable Use Policy (AUP)","description":["This information is subject to an Acceptable Use Policy."],"links":[{"rel":"alternate","type":"text/html","href":"https://www.nic.ch/terms/aup/"}]}],"objectClassName":"domain","ldhName":"switch.ch","switch_name":"switch.ch","handle":"switch.ch","entities":[{"objectClassName":"entity","roles":["registrar"],"vcardArray":["vcard",[{"version",{"text","4.0"},{"fn",{"text","Gandi SAS"}],"kind",{"text","group"}]}],"status":["active"],"events":[],"secureDNS":{"delegationSigned":true},"nameservers":[{"ldhName":"ns2.switch.ch","objectClassName":"nameserver","ipAddresses":{"v4":"130.59.31.29","v6":"2001:620:0:ff::2f"}},{"ldhName":"nsa-p.dnsnode.net","objectClassName":"nameserver","ipAddresses":{"v4":"130.59.31.26","v6":"2001:620:0:"
```

Captcha

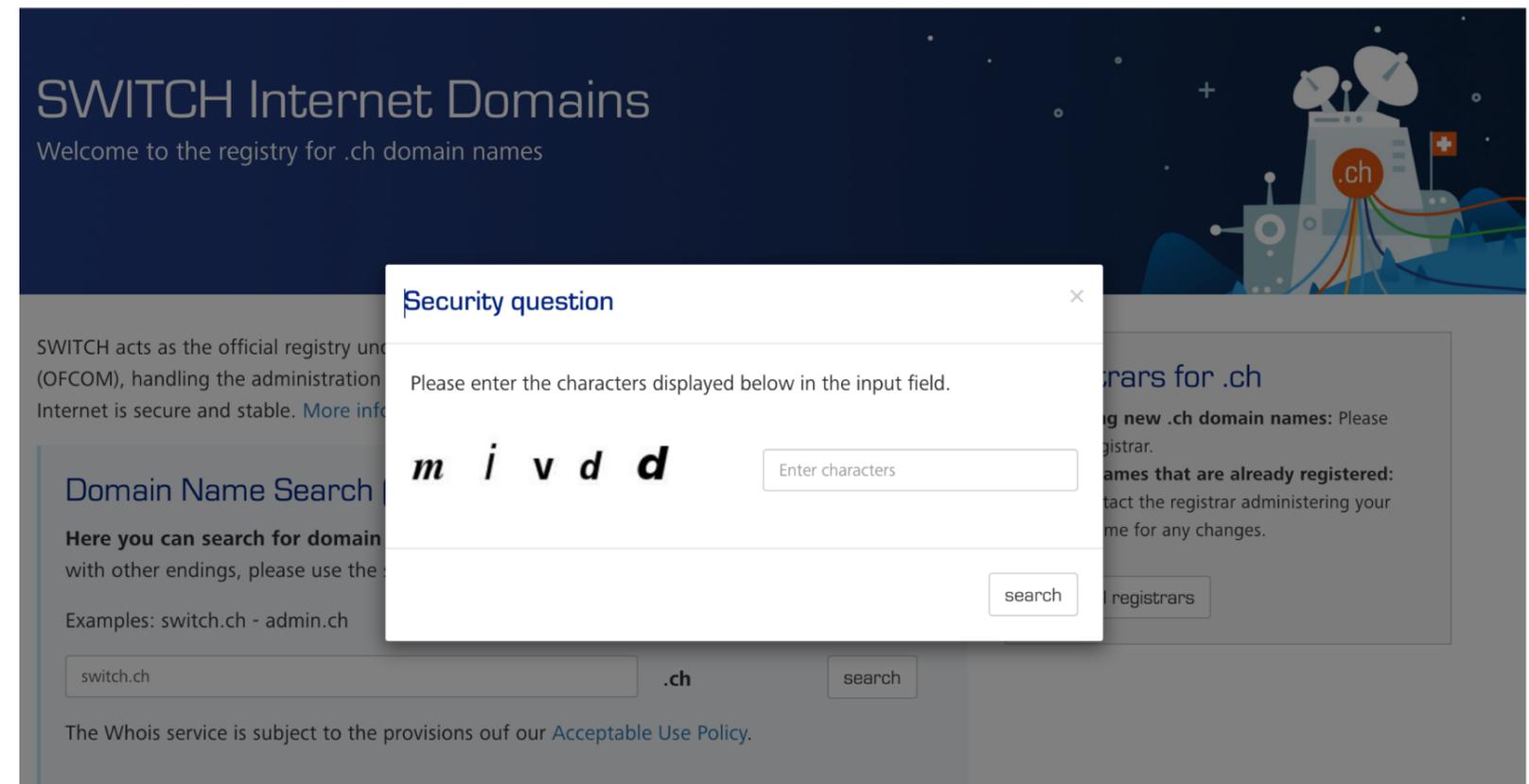
CAPTCHA FOR WHOIS QUERIES

To query the Whois database, SWITCH offers the public two different options:

- encrypted, web-based access in four languages via <https://whois.nic.ch>,
- using the Whois protocol via TCP connection to whois.nic.ch, port 43 (in compliance with RFC 3912).

A particularly high number of automated queries that are made using the Whois protocol are blocked by SWITCH in accordance with OID. In rare cases, this can also cause legitimate individual user queries to be blocked. Blocking of IP addresses had affected both access methods in the past.

In October we began using Captcha to verify web-based Whois queries. This type of access is always available, even if the user's IP address is blocked from access via port 43.



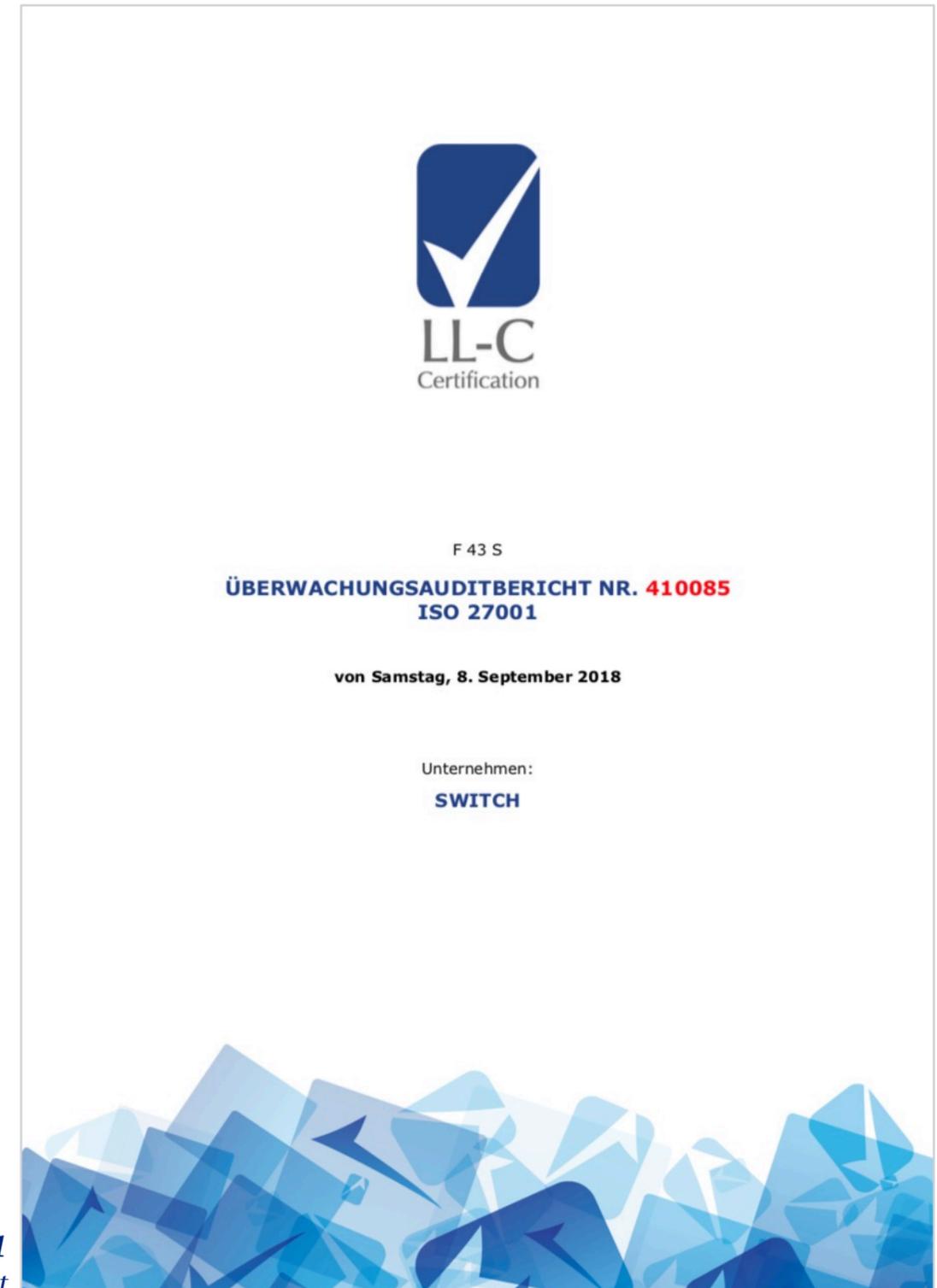
ISMS

Surveillance Audit

An annual audit is performed to verify ISMS certification in accordance with ISO 27001. In 2018, the audit was conducted in the form of a one-day Surveillance Audit in Lausanne. The two data centres used by the Registry were inspected during the audit. Specific topics were also examined more closely, such as raising security awareness among all SWITCH employees.

The results from the audit are documented in an audit report: No deficiencies were identified.

A few recommendations for improvements were made. For example, we could close off the racks containing our servers, even though they are already in a securely locked data centre. It would also help to distinguish between ‘data’ and ‘information’ in our terminology.



Redesign

of the registrar portal

The website for recognised registrars, registrar.nic.ch, received a facelift. It now has the same look as www.switch.ch and www.nic.ch.

On the start page, registrars will find an overview of their credit as well as upcoming subscription renewals due for payment. They can download VAT-compliant documents as well as view statistics about their current domain portfolios.

The screenshot displays the SWITCH registrar portal interface. At the top, the SWITCH logo is on the left, and language (DE) and login (Abmelden) options are on the right. Below the logo, a breadcrumb trail reads "Internet Domains - Registrarbereich". A dark blue banner contains the text "Willkommen im Registrarbereich".

The main content area is divided into several sections:

- Aktueller Kontostand:** 39'014.28
- Laufender Monat: Februar 2019**

Beschreibung/Transaktionen	Anzahl	Betrag CHF
Saldo per 01.02.2019		-140'985.72
Gutschriften		0.00
Akontozahlungen	1	180'000.00
Neuregistrierungen		0.00
Abo-Erneuerungen		0.00
Saldo		39'014.28
- Zukünftige Abo-Erneuerungen**

Februar 2019	73'080.00
März 2019	79'747.20
April 2019	67'089.60
Mai 2019	69'412.80
- Belege herunterladen**
 - Abrechnung (PDF): 2018-10 [Dropdown] [Download]
 - Transaktionen (CSV): 2018-10 [Dropdown] [Download]
- Registrarbereich**
 - Domain-Namen: Liste
 - Domain-Namen: Statistik
 - Benutzerkonto
 - Passwort ändern
 - Kontakt und Info
- EPP-Status**
 - EPP-Status anzeigen

Domain name inventory

Developments 2018

DEVELOPMENT OF .CH

The inventory of .ch domain names increased by a good 70,000 within a year.

	2017	2018
New registrations	283,576	274,720
Deletions	215,730	227,969
Reactivations*	21,017	23,031
Domain inventory as at 31/12	2,123,372	2,193,164

DEVELOPMENT OF .LI

The inventory of .li domain names increased by almost 1,000 within a year.

	2017	2018
New registrations	7,982	8,812
Deletions	9,200	8,412
Reactivations*	339	484
Domain inventory as at 31/12	62,587	63,473

DOMAIN NAME INVENTORY

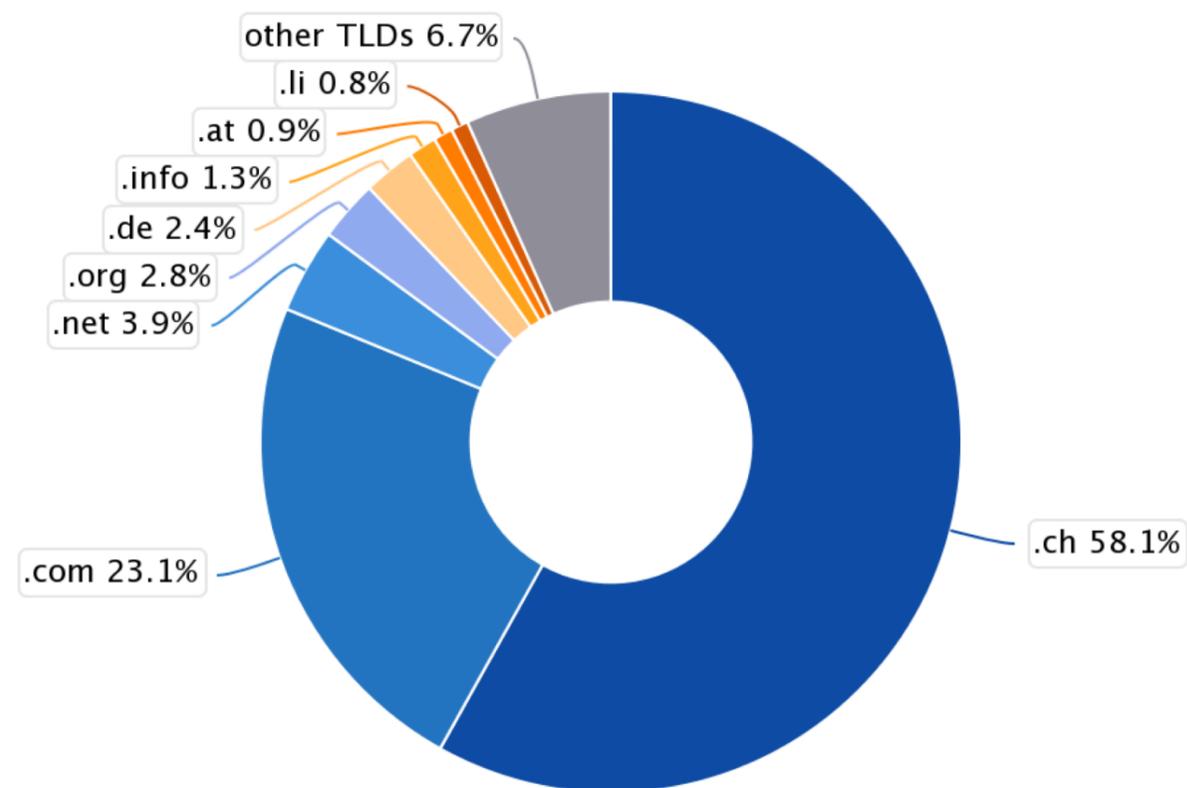
Development of the domain name inventory for .ch and .li

** Deleted domain names which were reactivated by the registrar within the 40-day transition period*

Market share

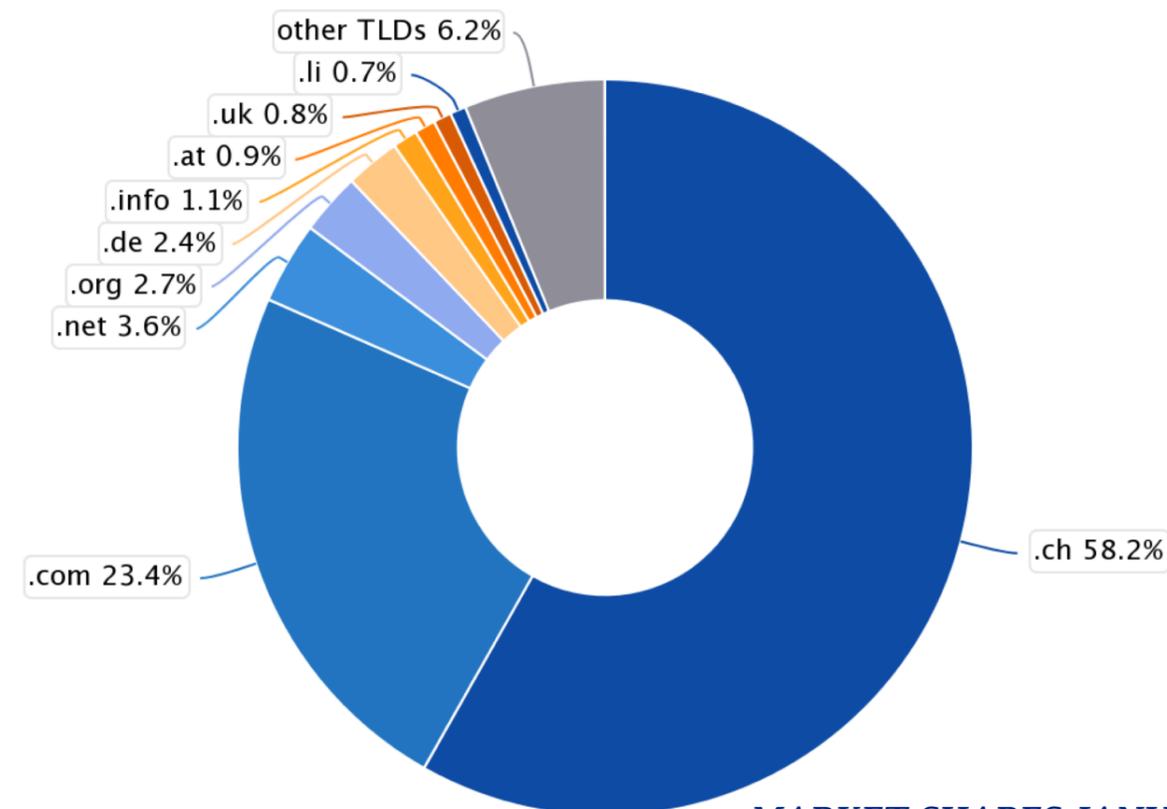
of .ch and .li among Swiss domain name holders

The market share of .ch domain names among holders in Switzerland remained nearly unchanged from January 2018 to January 2019.



MARKET SHARES JANUARY 2018
of various TLDs among domain name holders in Switzerland
Source: CENTR

Little has changed in market share for the old generic TLDs .com/.net/.org; the same is true for .li domain names.



MARKET SHARES JANUARY 2019
of various TLDs among domain name holders in Switzerland
Source: CENTR

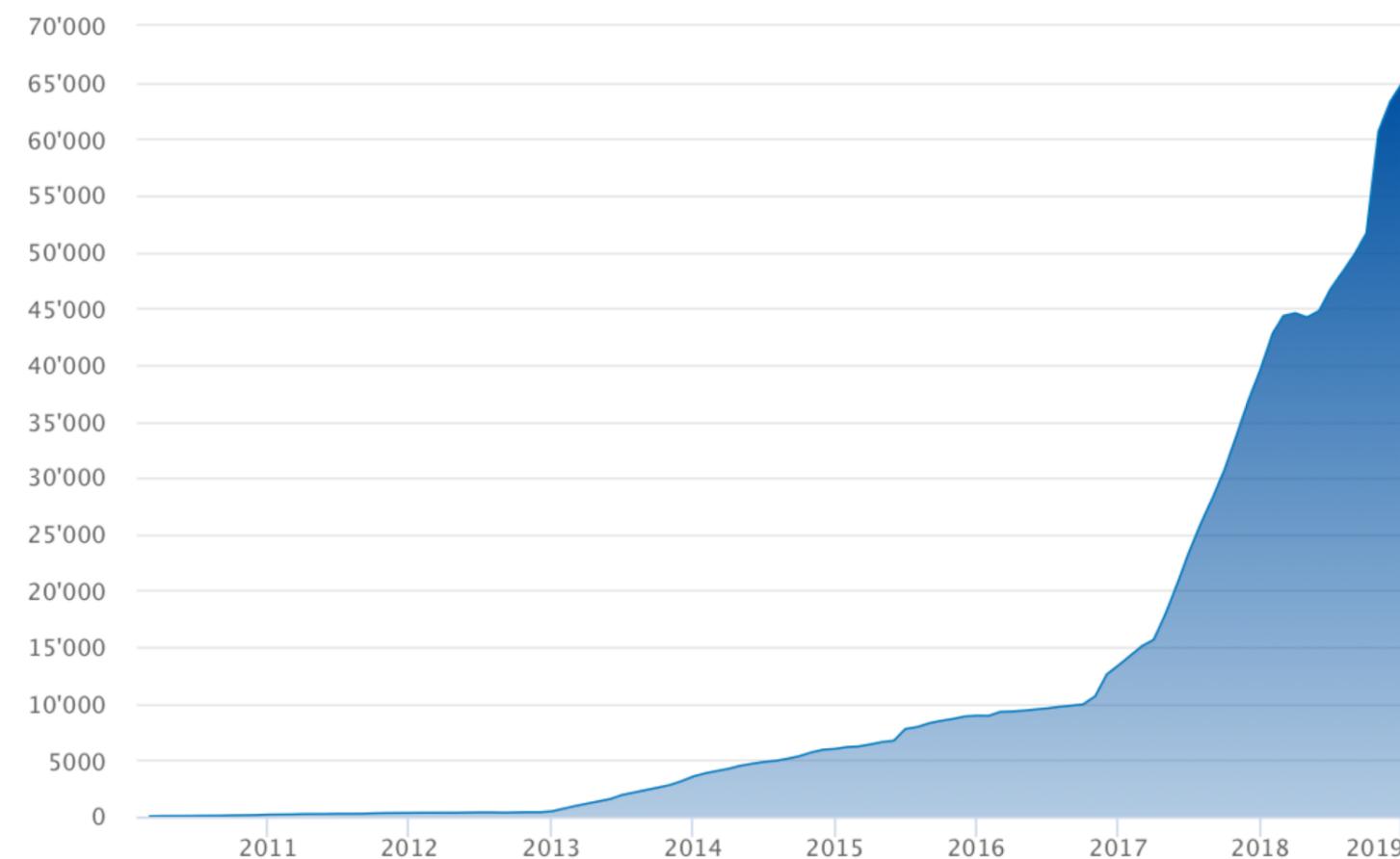
DNSSEC developments

Number of signed domain names

The number of .ch domain names signed with DNSSEC (64,924) in 2018 continued to increase in comparison to 2017 (39,581). This is equivalent to 3.0% of all .ch domain names.

The pronounced increase toward the end of the year is due to the fact that additional registrars and hosting providers have greatly simplified and automated the activation of DNSSEC.

The introduction of ‘Automated DNSSEC Provisioning’ (RFC 8078) has also made the activation of DNSSEC easier for hosting providers that do not also function as registrars. The effects of this will only be felt in 2019.

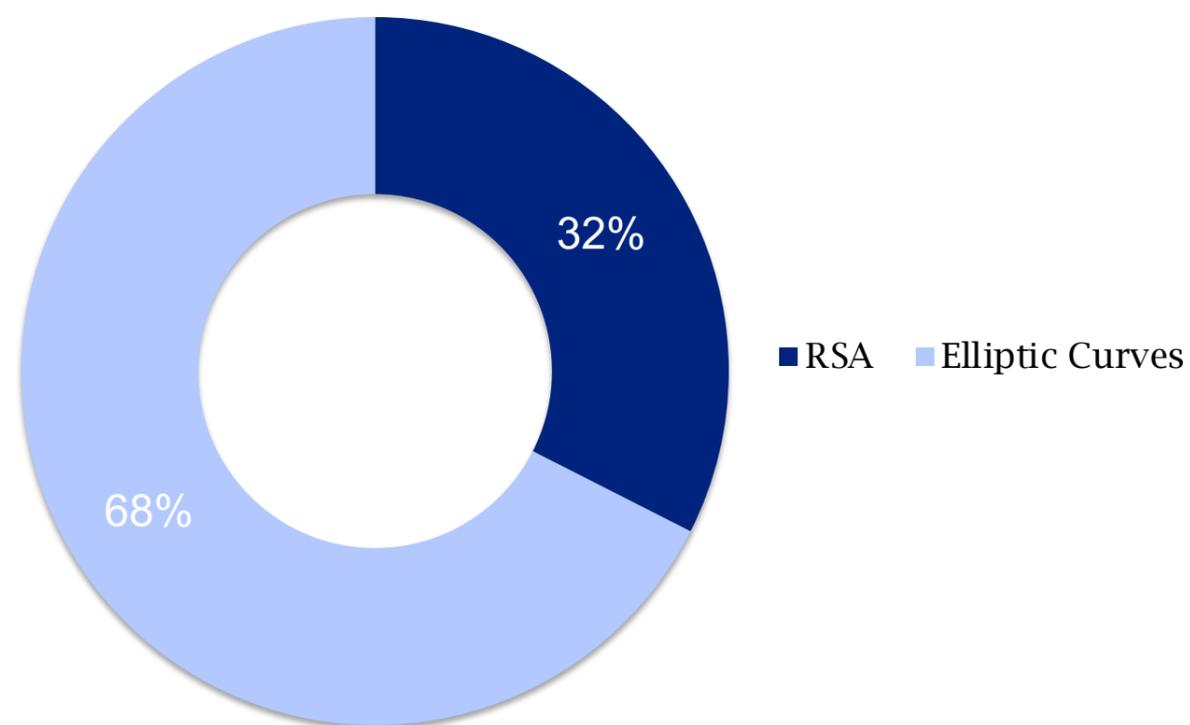


DNSSEC
Number of .ch domain names signed with DNSSEC

DNSSEC developments

Distribution of DS algorithms

Almost 70% of the .ch domain names protected with DNSSEC use modern ECDSA signatures (Elliptic Curve). The percentage remained unchanged since last year. 30% use traditional RSA signatures.



Percentage of DNSSEC algorithms

DNSSEC algorithm	Number	Percentage
5 - RSASHA1	215	0.33%
7 - RSASHA1-NSEC3-SHA1	11,325	17.34 %
8 - RSASHA256	9,453	14.47 %
10 - RSASHA512	46	0.07 %
13 - ECDSAP256SHA256	44,256	67.77 %
14 - ECDSAP384SHA384	9	0.01%
15 - ED25519	1	0.00%
16 - ED448	1	0.00%

DNSSEC signatures used

Dispute resolution

Since 2004, SWITCH has been using the dispute resolution service of WIPO (World Intellectual Property Organization). WIPO operates a dispute resolution service accredited by ICANN for over 70 other registries.

In 2018, the experts passed down decisions on 11 .ch domain names. The expert decision is the final step in the process. A somewhat smaller number of cases are closed, for example, during arbitration or because proceedings are abandoned.

WIPO decisions	2017	2018
Transfer to applicant	8	10
Complaint rejected	4	1
Number of proceedings	12	11

	Domain names
Transfer to applicant	ipms.ch dpamicrophones.ch hidrofugal.ch comfortinn.ch belcando.ch splenda.ch splenda-schweiz.ch myaudi.ch misterauto.ch mydhl.ch
Complaint rejected	piscinebuhler.ch

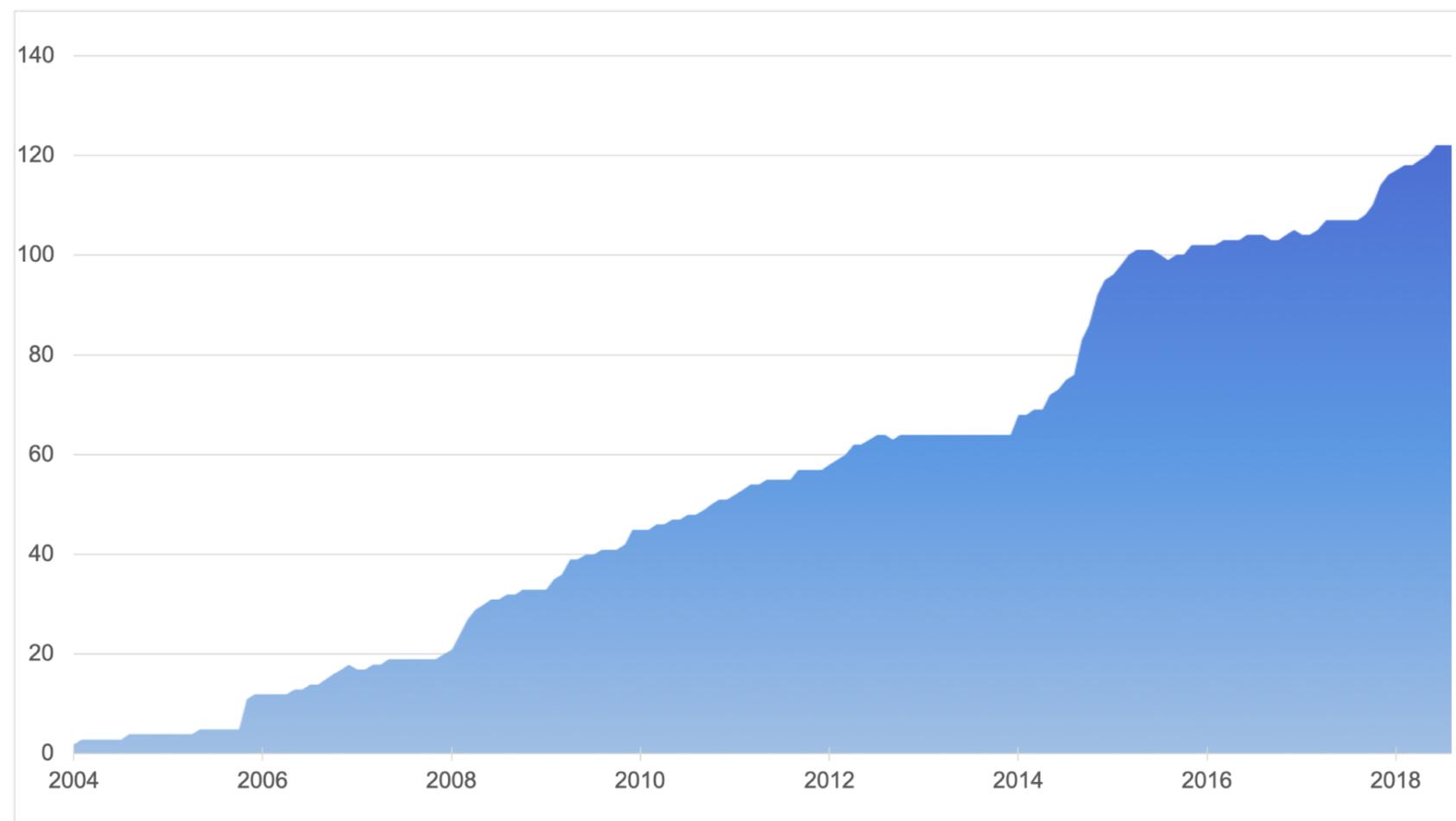
DISPUTE RESOLUTION
WIPO decisions, as of February 2019

Registrar developments

With the announcement of domain name migration from SWITCH to the registrars, the number of registrars leapt from 83 to 100 in 2015. More hosting and email providers wanted to become registrars so that they could manage their customers' domains themselves in the future.

This trend slowed a little, and SWITCH had 104 active registrars by the end of 2016. There were only three additional registrars in 2017.

In 2018, considerably more registrars than expected were added; by the end of the year we recorded 122 registrars.

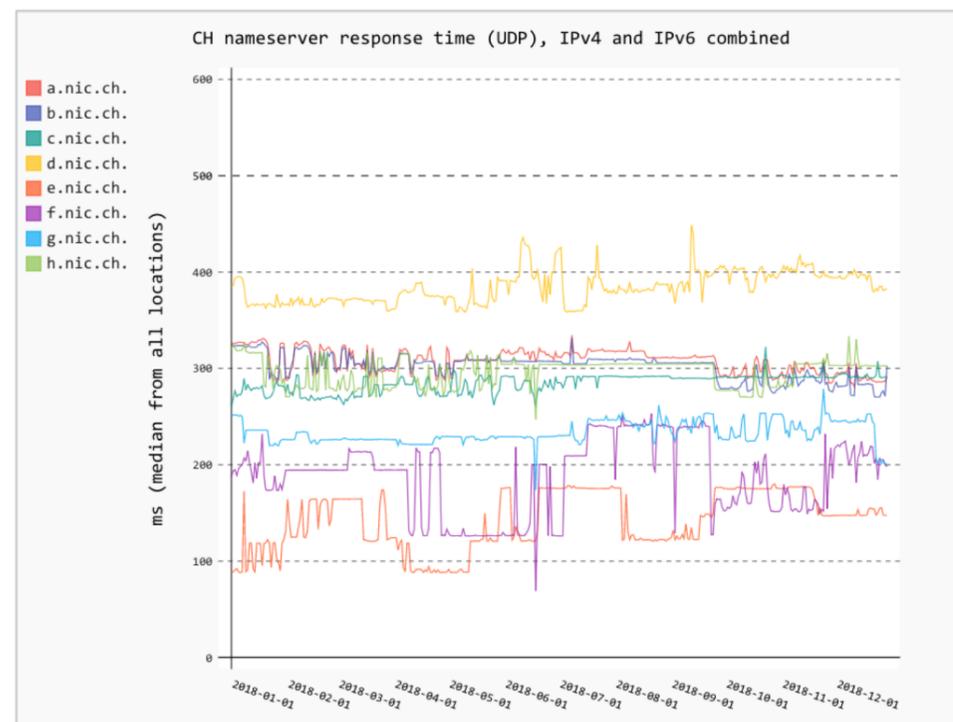


INVENTORY DEVELOPMENT
By the end of 2018, the Registry counted
122 active registrars

Performance

of the name servers

In terms of DNS performance measurement, SWITCH relies on the response time requirements for DNS queries stipulated by the ICANN Agreement: Queries in the CH zone must be answered by at least one logical name server within 500 ms (UDP) or 1500 ms (TCP).



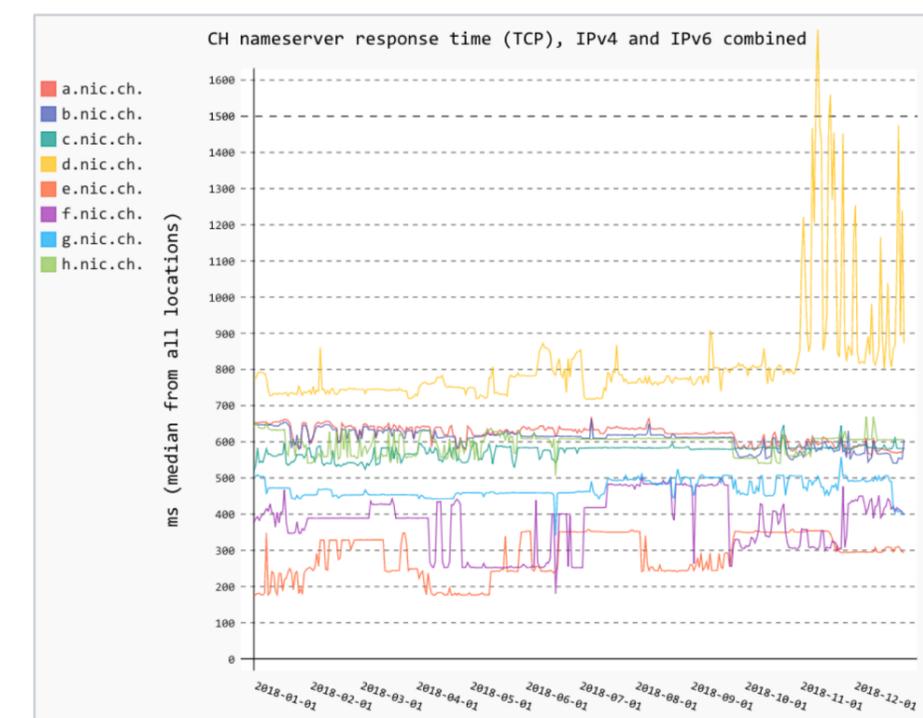
UDP RESPONSE TIMES

Combined response times of IPv4 and IPv6

In 2018, this requirement was met in each instance. The measurements were carried out by RIPE and are available to the public at <https://atlas.ripe.net/dnsmon/group/ch>.

UNICAST a.nic.ch (CH), b.nic.ch (CH), c.nic.ch (USA), d.nic.ch (BR), h.nic.ch (CH)

ANYCAST e.nic.ch, f.nic.ch, g.nic.ch



TCP RESPONSE TIMES

Combined response times of IPv4 and IPv6

Cybercrime

QUANTITATIVE

In the reporting year, we captured and processed the following cases:

	# malware cases	# phishing cases
Reports received	1,420	1,478
Suspicion confirmed	379	1,068
Number of blocked domain names	89	881
Reason for lifting block:		
- statutory period expired	4	0
- lifted after block	52	7
- in process at reporting day	65	885
Revoked domain names	21	868

NUMBER OF MALWARE AND PHISHING CASES 2018
quantitative view

QUALITATIVE

The time spent on cases was:

	Duration	
Duration of the block pursuant to OID Art. 15. 1, 2, 3 max. blocking time 30 days (720 hours)	Min. time	1.75 h
	Average	86.51 h
	Max. time	156.83 h
Response time from SWITCH following notification	Average	12.44 h
Time until removal of threat after notifying the holders	Average	33.03 h

NUMBER OF MALWARE AND PHISHING CASES 2018
qualitative view

Economic indicators

The Foundation Council session on 13 June 2019 will pass the SWITCH foundation's 2018 Annual Report, along with the balance sheet and income statement. Dispatch and publication will be on 14 June 2019.

No figures will be published at this point. Instead, interested parties will be referred to the comprehensive documents of the 2018 SWITCH Annual Report.

Orientation and goals 2019

1/2

FOCUS ON TOP 1000 .CH DOMAIN NAMES

The measures taken by SWITCH so far have been aimed primarily at all registrars and all holders. In 2019, we will instead be focussing on the top 1000 .ch domain names. These are the most frequently used web, email or infrastructure domains. This is also where the security settings are most effective.

The operators of these domain names must be aware of their responsibility. Together with our partner Hardenize.com, we are visualising the technical security parameters for web and email for these most frequently used domain names in order to raise awareness for the importance of a secure, stable internet in Switzerland. Over the course of the year, we will be expanding the security parameters to include a name server test. As of end of 2019, interested parties can use Registry Lock to protect their domain names against unintentional changes.

A measurement of the top 500 global domain names will serve as our benchmark, and our goal is for the top 1000 .ch domain names to approach these values by the end of 2019. That alone would be a huge accomplishment.

SECURITY AWARENESS MEASURES

The ‘Hack the Hacker’ escape room was an attempt to add a game element to training. Employees at all levels at SWITCH, the German registry DENIC, as well as many different people from industry, research, and teaching, they all learned a lot about their behaviour and internet security while having plenty of fun in the process. Using a mobile version of the escape room, other groups in Switzerland will get to take this highly informative course.

At the same time, we want to use the media as a multiplier for this topic by using ‘SWITCH Experts’ – a forum that allows trade journalists to listen to short SWITCH presentations and to ask questions. We expect that the media will cover the topic with a high level of professionalism.

SWITCH will also continue to work together with the trade associations at the same level of intensity, and take part in various awareness-raising activities.

Orientation and goals 2019

2/2

BATTLING CYBERCRIME

In 2018, SWITCH began working more closely with law enforcement authorities. The large number of fraudulent web shops blocked by SWITCH shows how real the danger is for internet users and that security precautions are crucial.

However, such precautions require a great deal of human resources from the authorities and from SWITCH. We can therefore expect fraudulent activity to move away from .ch domains if we join forces to consistently take down fraudulent web shops. By the end of 2018, however, there was no steady trend moving in this direction.

In 2019, we hope to see a change here with the Zurich Cantonal Police Force now categorising fraudulent web shops as phishing websites. Under the Federation's Ordinance on Internet Domains (OID), SWITCH has the possibility to immediately remove fraudulent web shops from the internet.

Denmark's registry for .dk domains has implemented two measures to fight cybercrime:

To guard against fraudulent web shops, the .dk registry requires domain name holders from Denmark to verify their identity with their national electronic ID. Suspicious registrations from foreign holders are subject to the principle of 'deferred delegation'. These domain names can only be used once the owner has provided legitimate identity verification.

Because Switzerland does not have a universal electronic identity verification system, this measure is currently unfeasible for .ch domains. However, it is worth examining the possibility of requiring holders to provide identification in cases of suspicious registrations before they can use the domain name.

The first step will be to discuss the topic with experts during the 'Domain pulse' conference in Bern. Implementation will also require a corresponding legal basis.

Planned innovations 2019

REGISTRY LOCK

In a workshop with the registrars in late 2017, we presented a range of options, including a Registry Lock, which would prevent changes to domain names on the registry end. This would mean that holders would not be able to change the parameters via the registrar's web interface, but nor would hackers have any means of changing the domain name via the registrar. Changes would have to be authorised through an additional procedure with the registry.

Registrars have not generally offered this feature in the past. It makes sense for domain names belonging to particularly important websites. It also makes sense for domain names that are used for larger, infrastructure-related segments of the internet, i.e. those typically used for name servers or mail servers.

In consultation with the registrars, we will develop a pragmatic process for implementing the Registry Lock. With this, SWITCH is further consolidating the foundation of internet security in Switzerland.

TESTING NAME SERVER CONFIGURATIONS

SWITCH assigns domain names, regardless of whether the domain name is merely reserved or whether it can actually be used via registered name servers. The configuration of name servers is up to the registrars or hosting providers. The DNS is very stable and will even work with a sub-optimal configuration.

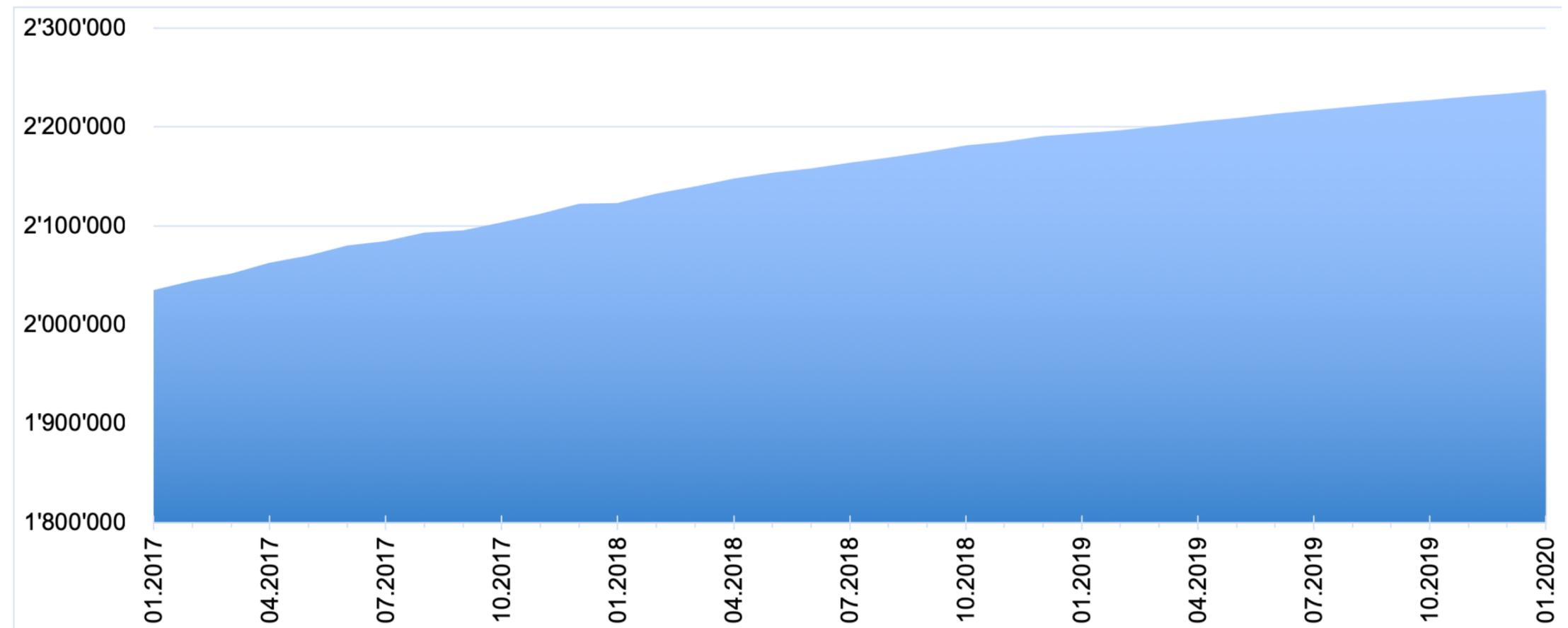
Using DNSSEC increases susceptibility to errors, on the one hand, while reducing the tolerance to incorrect configurations, on the other hand. The concept of distributed servers results in a delayed detection of the error in the first place, or it may only occur in certain locations in the network.

We will be setting up a test infrastructure that will allow us to let name server operators know about the quality of their configurations. The processes, frequency of tests, and persons to be notified will still need to be determined in the course of the project. We believe this is a prerequisite for the widespread adoption of DNSSEC.

Growth forecast 2019

.ch domain names

SWITCH is forecasting growth of 3% for 2019. This represents an average increase of around 3,000 domain names per month.



GROWTH FORECAST
.ch domain name inventory 2019

SWITCH

Working for a better digital world



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