

# Tracking Certificate Misissuance in the Wild

## I. ERRATA

An early version of this paper erroneously listed D-Trust GmbH, Freistaat Bayern, and FNMT-RCM as having high misissuance rates in Table II of the published paper. This inconsistency was due to a bug in the Go ASN.1 parser, which prevented ZLint from identifying secondary CRL endpoints in some certificates.

In addition, KPN Corporate Market B.V, Microsec Ltd., Trustis Ltd., and TUBITAK were listed with high misissuance rates in Table VIII of the published paper due an improper check of the length field in the `ExplicitText` field.

Both errors have been corrected, and the appropriate tables have been updated in this document and in ZLint. We thank D-TRUST and Microsec Ltd. for bringing these issues to our attention.

Organization	Misissued	Organization	Misissued	Organization	Misissued
Nestle (1)	968 100%	Consorti Catalunya (2)	1,117 58.8%	GoDaddy.com (3)	38,215 2.4%
PSCProcert (1)	39 100%	RHRK (2)	1,171 35.6%	Symantec Corp. <sup>†</sup> (22)	23,053 0.8%
Giesecke and Devrient (1)	18 100%	KPN Corporate BV (2)	1,933 34.5%	StartCom Ltd. <sup>‡</sup> (17)	11,617 2.1%
Unizeto Sp. z o.o. (1)	18 100%	DFN-Verein (5)	1,689 29.8%	WoSign CA Lmtd. <sup>‡</sup> (39)	9,849 5.0%
CertiPath LLC (1)	9 100%	Universitaet Stuttgart (1)	1,830 29.2%	VeriSign <sup>†</sup> (10)	9,835 23.1%
Helsana Gruppe (1)	8 100%	AC Camerfirma S.A. (1)	2,725 25.9%	GeoTrust Inc. <sup>†</sup> (22)	5,694 0.3%
Chunghwa Telecom Co. (1)	7 100%	VeriSign (10)	42,622 23.1%	Comodo Ltd. (30)	3,219 0.1%
TSCP Inc. (1)	5 100%	Trend Micro Inc (1)	6,374 19.8%	DigiCert (43)	2,597 0.1%
Dell Inc. (1)	4 100%	AlphaSSL (1)	3,848 17.2%	Thawte <sup>†</sup> (4)	1,751 0.4%
DigitPA (1)	2 100%	Uni Erlangen Nuernberg (1)	1,115 14.4%	TERENA (9)	1,405 1.7%

(a) Highest Misissuance Rate

(b) Highest Misissuance Rate (&gt;1K certificates)

(c) Most Misissued Certificates

TABLE I: **Organizations with Highest Misissuance**—We show the organizations that misissued the most certificates by fraction or raw count. The number in parentheses is the number of intermediates each organization is responsible for. <sup>†</sup> Owned by Symantec Corp. <sup>‡</sup> Owned by Qihoo 360 Technology Co. Ltd.

	Organization	Errors	Warnings	Certificates	% Error	% Warn		Organization	Errors	Warnings	Certificates	% Error	% Warn
1	Nestle	968	968	968	100.00%	100.00%	45	OpenTrust	12	14	17	70.59%	82.35%
1	PSCProcert	39	0	39	100.00%	0.00%	46	Helmholtz-Zentrum Berlin	29	38	42	69.05%	90.48%
1	Giesecke and Devrient	18	18	18	100.00%	100.00%	47	KBC Group	4	3	6	66.67%	50.00%
1	Unizeto Sp. z o.o.	18	2	18	100.00%	11.11%	47	Hochschulservicezentrum Baden-Wuerttemberg	2	3	3	66.67%	100.00%
1	CertiPath LLC	9	8	9	100.00%	88.89%	49	GeoForschungsZentrum Pots- dam	39	52	59	66.10%	88.14%
1	Helsana Gruppe	8	8	8	100.00%	100.00%	50	Georg-Eckert-Institut	11	14	17	64.71%	82.35%
1	Chunghwa Telecom Co.	7	0	7	100.00%	0.00%	51	Fachhochschule Neu-Ulm	54	81	85	63.53%	95.29%
1	TSCP Inc.	5	5	5	100.00%	100.00%	52	Hochschule fuer Film und Fernsehen Konrad Wolf	18	21	29	62.07%	72.41%
1	Dell Inc.	4	4	4	100.00%	100.00%	53	Baltimore	75	86	123	60.98%	69.92%
1	DigitPA	2	2	2	100.00%	100.00%	54	QuoVadis Trustlink Switzer- land Ltd.	3	3	5	60.00%	60.00%
1	Firmaprofesional SA	2	2	2	100.00%	100.00%	54	The Go Daddy Group	3	2	5	60.00%	40.00%
1	STRAC	2	2	2	100.00%	100.00%	56	Digidentity B.V.	144	238	242	59.50%	98.35%
1	LAWtrust	1	1	1	100.00%	100.00%	57	Consorti Catalunya	657	4	1117	58.82%	0.36%
1	LSU Health System	1	1	1	100.00%	100.00%	58	Firmaprofesional S.A.	25	41	43	58.14%	95.35%
1	SAFE-Biopharma	1	1	1	100.00%	100.00%	59	Hochschule Esslingen	18	30	31	58.06%	96.77%
1	Akademie LPD	1	1	1	100.00%	100.00%	60	InfoCert SpA	29	51	51	56.86%	100.00%
1	Ubizen nv	1	0	1	100.00%	0.00%	61	Universitaet Giessen	95	156	170	55.88%	91.76%
19	ACCV	840	840	844	99.53%	99.53%	62	Hochschulbibliothekszentrum NRW	54	83	98	55.10%	84.69%
20	Cybertrust Inc	320	322	322	99.38%	100.00%	63	GAD EG	24	41	44	54.55%	93.18%
22	Migros	88	89	89	98.88%	100.00%	64	TURKTRUST	6	0	11	54.55%	0.00%
23	KPN Corporate Market B.V.	55	56	56	98.21%	100.00%	65	Universitaet Greifswald	122	188	225	54.22%	83.56%
24	U.S. Government	126	46	129	97.67%	35.66%	66	Deutsches Biomasse- ForschungsZentrum	10	16	19	52.63%	84.21%
25	Xingzheng Yuan	32	1	33	96.97%	3.03%	67	SecureTrust Corporation	11	10	21	52.38%	47.62%
26	VISA	80	7	83	96.39%	8.43%	68	Bundesamt fuer Verbraucher- schutz	12	17	23	52.17%	73.91%
27	Secure Business Services	50	0	52	96.15%	0.00%	69	Fachhochschule Augsburg	29	46	57	50.88%	80.70%
28	CNNIC	21	21	22	95.45%	95.45%	70	Universitaet Marburg	89	155	175	50.86%	88.57%
29	Sonera	17	16	18	94.44%	88.89%	71	Hochschule fuer angewandte Wissenschaften Fachhochschule Coburg	12	23	24	50.00%	95.83%
30	agentschap	76	76	81	93.83%	93.83%	71	Digital Signature Trust Co.	9	8	18	50.00%	44.44%
31	Bechtel Corporation	14	15	15	93.33%	100.00%	71	Suva	3	3	6	50.00%	50.00%
32	Cybertrust	14	10	15	93.33%	66.67%	71	Institut fuer Weltwirtschaft an der Universitaet Kiel	1	2	2	50.00%	100.00%
33	DOUGLAS Holding AG	18	20	20	90.00%	100.00%	71	CRYPTONEO	1	2	2	50.00%	100.00%
34	Intel Corporation	664	738	738	89.97%	100.00%	71	Japan Certification Services	1	0	2	50.00%	0.00%
35	SCEE	17	17	19	89.47%	89.47%							
36	Fachhochschule Gelsenkirchen	14	16	16	87.50%	100.00%							
37	RUAG Holding Ltd	7	0	8	87.50%	0.00%							
38	Leibniz-Institut fuer Neuro- biologie Magdeburg	6	6	7	85.71%	85.71%							
39	Vodafone Group	790	543	937	84.31%	57.95%							
40	AC Camerfirma SA	77	89	92	83.70%	96.74%							
41	Banca d'Italia	111	134	134	82.84%	100.00%							
42	KIR S.A.	8	8	10	80.00%	80.00%							
43	ORC PKI	3	4	4	75.00%	100.00%							
44	Wells Fargo WellsSecure	5	0	7	71.43%	0.00%							

TABLE II: **Highest Misissuance Rate Organizations**—We show the authorities with the highest misissuance rate in our dataset, sorted by their total issuance.