

DOCUMENT FOR ccTLD WORKSHOP

Source: Elisabeth Porteneuve
Title: Archives of ccTLD IANA information

The purpose of this paper is to plead the recovery and opening of the ccTLD IANA database archives. Those archives keep useful information on initial ccTLDs' registrations and could clarify their destiny over time.

Who are ccTLD Managers? How many are they? When ccTLDs registration occurred? How it happen? What events are related to the ccTLD creation? Where are records of registration? Who is in charge of the custodianship of this patrimony of the world?

Were the assessments or public audits of the ccTLD IANA database made over time and published? Do we have any document assessing the status of the ccTLD IANA database when transferred from the SRI NIC to the NSFNET project, or later in 1993 from the NSF to InterNIC (NSI)? In the end of 1998 after Jon Postel passing away? In February 2000 when the first purchase order for IANA function has been sent by the DoC to ICANN?

Some of the questions above have answers, some could have, but the comprehensive ccTLD Book of Genesis, documenting registration of all 240+ entries does not exist.

The preamble to the ccTLD IANA function is related to the archives of the ccTLD IANA database. The ccTLDs cover the whole world. The ccTLDs' IANA database is the history of the Internet creation, part to the world patrimony. Without those fundamental records providing information on all past ccTLD history and all changes ever recorded no much trust can be built for the future. In addition to the duty and responsibility of keeping historical archives, the analysis of documents from ccTLDs registrations could be an extraordinary lesson on international deployment of the Internet, not less interesting than the discovery of continents and countries half millennium ago.

It is time to admit than the ccTLDs' issues will take time. The establishing and maintaining policies for the ccTLD IANA function is a complex and long term matter. While trying to imagine the structure for the "ccTLD IANA Maintenance Agency", we could take lessons from the ISO 3166/MA history and difficulties:

“In addition a mechanism for the maintenance of the new standard had to be developed because user acceptance for this kind of standard critically depends on its being up to date.”

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When the ccTLDs registration occurred? Example of ccTLDs information retrieved from the old InterNIC database and correlated to Internet related information.

The registration of 240+ ccTLDs was made between 1985 and 1999, 15 years.

The list of ccTLD in chronological order of their registration is provided in Annex A, it has been compiled from the InterNIC database in May 1999. The distribution per annum is in Table 1.

During those 15 years few major phenomena had a significant impact on the ccTLD deployment:

1. The NSFNET Backbone Project, 1987 – 1995 (*infrastructure*)
2. The Berlin Wall's failure, terminating the long years of the European continent' split, followed up by the break-up of the Soviet Union and of Yugoslavia into new independent countries (*politics*);
3. The works of ISO3166 Maintenance Agency and its database of elements related to countries and territories (*world getting organized for international commerce and communication*).

Besides its role within the Unites States, the NSFNET Backbone Project has been one of leading factors in the deployment of international Internet connectivity among research laboratories and universities from all over the world. The first two international high speed lines (at 128 kbps) have been deployed between the NSF, INRIA and NORDUNET in 1990 (cf. NSF 90-69 Solicitation Project). At the same time the European high speed backbone, Ebone, has been put in place connecting 5 cities: Paris, London, Amsterdam, Stockholm and Geneva. The beginning of high speed Internet infrastructure is 1990.

One shall note than many ccTLD Managers originate from the research laboratories and universities involved in financing and deploying the initial expensive infrastructure for Internet.

One of interesting historical document is <http://www.ccwhois.org/ccwhois/cctld/earn.exec22.txt> from January 1990. It reports correspondence between BITNET and EARN and the United States Department of Commerce, inquiring for permission to expand these networks to the Soviet Union and former communist countries, and to People's Republic of China. The answer was yes, under several conditions, which included the prohibition to use the network for "commercial traffic". Consequently Poland, the first country from the Eastern Europe was connected to EARN on 17 July 1990.

The ISO 3166/MA <http://www.iso.org/iso/en/prods-services/iso3166ma/index.html> provides very useful information on its own history and difficulties. It took 8 years to determine initial ISO 3166 list (1968 to 1974).

"In addition a mechanism for the maintenance of the new standard had to be developed because user acceptance for this kind of standard critically depends on its being up to date."

"The ISO 3166/MA was created in 1976. Since then this group of experts has been in charge of continuously updating ISO 3166. During the 26 years passed by since 1976 only 26 country names have been deleted completely from ISO 3166. A far bigger number of changes to country names and/or their code elements have been announced by the ISO 3166/MA in the ISO 3166 Newsletters. Generally speaking, the list of code elements in ISO 3166 is very stable and changes are made only when necessary. The country names tend to change more often but not every such change calls for a new code element."

Table 1: ccTLDs' registration over time, from 1985 to 1999

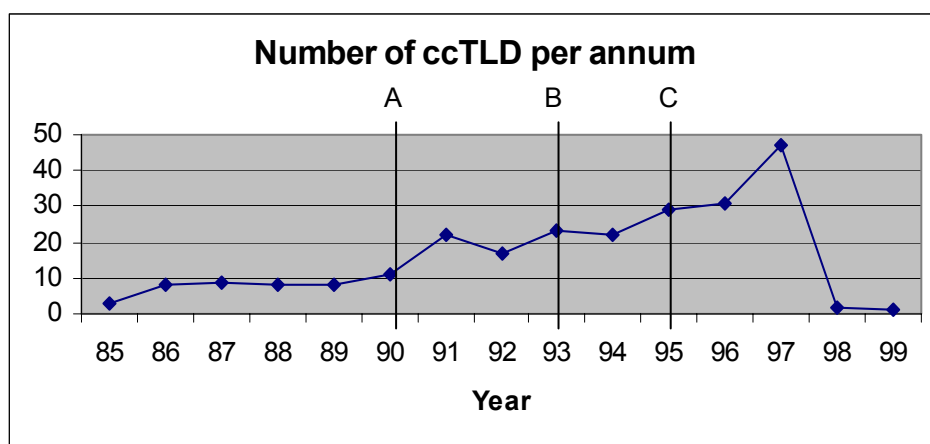
Year	Nb ccTLD registered	Selected documents and events	ISO 3166 codes
84		RFC920 (Domain Requirements: moving from ARPA to TLDs) ftp://ftp.rfc-editor.org/in-notes/rfc920.txt	
85	3		
86	8		
87	9	The NSFNET Backbone Project (1987 – 1995) begins ftp://nic.merit.edu/nsfnet/internet.html http://www.merit.edu/merit/archive/nsfnet/final.report/	
88	8		[1] The third edition
89	8	Berlin Wall falls down	[2] New country codes
90	11	[A] International connections for NSFNET	
91	22		
92	17		
93	23	[B] InterNIC is formed by NSF (NSI provides Registration Services) The registration of domain name is subject to fee, \$35 per annum.	[3] The fourth edition
94	22	RFC1591 (Experience from the ccTLD deployment, Best Practice) ftp://ftp.rfc-editor.org/in-notes/rfc1591.txt	
95	29	[C] The NSFNET Backbone Project is terminated	
96	31	ISI continues to operate IANA function http://www.isi.edu/in-notes/imr/	
97	47		[4] The fifth edition
98	2	Jon Postel passes away on 16 Oct 1998	
99	1		
00		IANA function's purchase order to ICANN, 9 Feb 2000	

[1] The third edition of ISO3166 table is published in 1988.

[2] The number of country codes in ISO3166 table is greatly increased by the break-up of the Soviet Union and of Yugoslavia into new independent countries.

[3] The fourth edition of ISO3166 is published in 1993, consolidating the changes of the past five years.

[4] The fifth edition of ISO 3166 is published between 1997 and 1999, as a result in the expansion of the coding system: ISO 3166-2 and ISO 3166-3 have significantly widened the scope of the coding system. This is particularly true for ISO 3166-2 which lists several thousand names and code elements for subdivisions of countries.



Annex A

History of the Internet. ccTLDs in chronological order of top-level domain creation at the InterNIC. Information on ccTLD creation extracted from the InterNIC whois database on 11 May 1999. The missing information "Record created" for .FI (Finland) has been recovered.

References:

<http://www.ccwhois.org/ccwhois/cctld/ccTLDs-by-date.html>

No	YYMMDD	Country or territory (InterNIC handle)
1	850215	United States of America top-level domain (US-DOM)
2	850724	United Kingdom of Great Britain top-level domain (UK-DOM)
3	851024	Israel (State of) top-level domain (IL-DOM)
4	860305	Australia top-level domain (AU-DOM)
5	860425	Netherlands top-level domain (NL-DOM)
6	860805	Japan top-level domain (JP-DOM)
7	860902	France top-level domain (FR-DOM)
8	860904	Sweden (Kingdom of) top-level domain (SE-DOM)
9	860929	Korea (Republic of) top-level domain (KR-DOM)
10	861105	Germany (Federal Republic of) top-level domain (DE-DOM)
11	861204	Finland top-level domain (FI-DOM)
12	870119	New Zealand top-level domain (NZ-DOM)
13	870317	Norway (Kingdom of) top-level domain (NO-DOM)
14	870514	Canada top-level domain (CA-DOM)
15	870520	Switzerland (Swiss Confederation) top-level domain (CH-DOM)
16	870608	Malaysia top level domain (MY-DOM)
17	870714	Denmark (Kingdom of) top-level domain (DK-DOM)
18	870923	Argentina (Argentine Republic) top-level domain (AR-DOM)
19	871118	Iceland (Republic of) top-level domain (IS-DOM)
20	871223	Italy top-level domain (IT-DOM)
21	880101	Chile (Republic of) top-level domain (CL-DOM)
22	880120	Austria (Republic of) top-level domain (AT-DOM)
23	880127	Ireland top-level domain (IE-DOM)
24	880414	Spain top-level domain (ES-DOM)
25	880630	Portugal (Portuguese Republic) top-level domain (PT-DOM)
26	880805	Belgium (Kingdom of) top-level domain (BE-DOM)
27	880907	Thailand (Kingdom of) top-level domain (TH-DOM)
28	881019	Singapore (Republic of) top-level domain (SG-DOM)
29	890201	Mexico (United Mexican States) top-level domain (MX-DOM)
30	890219	Greece (Hellenic Republic) top-level domain (GR-DOM)
31	890418	Brazil (Federative Republic of) top-level domain (BR-DOM)
32	890508	India (Republic of) top-level domain (IN-DOM)
33	890615	Yugoslavia (Federal Republic of) top-level domain (YU2-DOM)
34	890731	Taiwan top-level domain (TW-DOM)
35	890827	Puerto Rico top-level domain (PR-DOM)
36	891013	Nicaragua (Republic of) top-level domain (NI-DOM)
37	900103	Hong Kong (Hisiangkang, Xianggang) top-level domain (HK-DOM)
38	900615	Sri Lanka (Democratic Socialist Republic of) top-level domain (LK-DOM)
39	900730	Poland (Republic of) top-level domain (PL-DOM)
40	900910	Costa Rica (Republic of) top-level domain (CR-DOM)
41	900910	Uruguay (Eastern Republic of) top-level domain (UY-DOM)

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42	900914	Philippines (Republic of the) top-level domain (PH-DOM)
43	900917	Turkey (Republic of) top-level domain (TR-DOM)
44	901107	Hungary (Republic of) top-level domain (HU-DOM)
45	901107	South Africa (Republic of) top-level domain (ZA-DOM)
46	901128	China (People's Republic of) top-level domain (CN-DOM)
47	901130	Egypt (Arab Republic of) top-level domain (EG-DOM)
48	910201	Ecuador (Republic of) top-level domain (EC-DOM)
49	910226	Bolivia (Republic of) top-level domain (BO-DOM)
50	910307	Venezuela (Republic of) top-level domain (VE-DOM)
51	910508	Namibia (Republic of) top-level domain (NA-DOM)
52	910517	Tunisia top-level domain (TN-DOM)
53	910825	Dominican Republic top-level domain (DO-DOM)
54	910903	Antigua and Barbuda top-level domain (AG-DOM1)
55	910903	Barbados top-level domain (BB-DOM)
56	910903	Bahamas (Commonwealth of the) top-level domain (BS-DOM)
57	910903	Belize top-level domain (BZ-DOM)
58	910903	Dominica (Commonwealth of) top-level domain (DM-DOM1)
59	910903	Saint Kitts & Nevis top-level domain (KN-DOM)
60	910903	Saint Lucia top-level domain (LC-DOM)
61	910903	Suriname top-level domain (SR-DOM1)
62	910903	Trinidad & Tobago (Republic of) top-level domain (TT-DOM)
63	910903	Saint Vincent & the Grenadines top-level domain (VC-DOM)
64	910909	Paraguay (Republic of) top-level domain (PY-DOM)
65	910924	Jamaica top-level domain (JM-DOM)
66	910926	Papua New Guinea top-level domain (PG-DOM)
67	911106	Zimbabwe (Republic of) top-level domain (ZW-DOM)
68	911125	Peru (Republic of) top-level domain (PE-DOM)
69	911224	Colombia (Republic of) top-level domain (CO1-DOM)
70	920226	Antarctica top-level domain (AQ-DOM)
71	920401	Slovenia top-level domain (SI1-DOM)
72	920421	Albania (Republic of) top-level domain (AL-DOM)
73	920603	Cuba (Republic of) top-level domain (CU-DOM)
74	920603	Estonia (Republic of) top-level domain (EE-DOM)
75	920603	Fiji (Republic of) top-level domain (FJ-DOM)
76	920603	Grenada (Republic of) top-level domain (GD1-DOM)
77	920603	Lithuania (Republic of) top-level domain (LT-DOM)
78	920603	Pakistan (Islamic Republic of) top-level domain (PK-DOM)
79	920814	Guatemala (Republic of) top-level domain (GT-DOM)
80	920904	Mozambique (People's Republic of) top-level domain (MZ-DOM)
81	920917	Macau top-level domain (MO-DOM)
82	921026	Kuwait (State of) top-level domain (KW-DOM)
83	921201	United Arab Emirates top-level domain (AE1-DOM)
84	921201	Ukraine top-level domain (UA1-DOM)
85	921202	Georgia (Republic of) top-level domain (GE1-DOM)
86	921202	Malta (Republic of) top-level domain (MT1-DOM)
87	930113	Czech Republic top-level domain (CZ-DOM)
88	930113	Lesotho (Kingdom of) top-level domain (LS1-DOM)
89	930226	Liechtenstein (Principality of) top-level domain (LI-DOM)
90	930226	Romania top-level domain (RO-DOM)
91	930227	Croatia / Hrvatska (Republic of) top-level domain (HR-DOM)
92	930227	Indonesia top-level domain (ID1-DOM)
93	930319	Botswana (Republic of) top-level domain (BW-DOM)
94	930319	Senegal (Republic of) top-level domain (SN-DOM)
95	930329	Burkina Faso top-level domain (BF-DOM)
96	930329	Slovakia top-level domain (SK-DOM)

97	930331	Bermuda top-level domain (BM-DOM)
98	930416	Honduras (Republic of) top-level domain (HN-DOM)
99	930429	Kenya (Republic of) top-level domain (KE-DOM)
100	930429	Latvia (Republic of) top-level domain (LV-DOM)
101	930514	Faroe Islands top-level domain (FO-DOM)
102	930719	Swaziland (Kingdom of) top-level domain (SZ-DOM)
103	930825	Azerbaijan top-level domain (AZ-DOM)
104	930825	Lebanon (Lebanese Republic) top-level domain (LB-DOM)
105	930909	Netherlands Antilles top-level domain (AN2-DOM)
106	930923	Macedonia (The former Yugoslav Republic of) top-level domain (MK2-DOM)
107	930929	Mali (Republic of) top-level domain (ML2-DOM)
108	931013	New Caledonia (Nouvelle Caledonie) top-level domain (NC2-DOM)
109	931126	Morocco (Kingdom of) top-level domain (MA2-DOM)
110	940103	Algeria (People's Democratic Republic of) top-level domain (DZ-DOM)
111	940201	Bahrain (State of) top-level domain (BH-DOM)
112	940324	Moldova (Republic of) top-level domain (MD3-DOM)
113	940325	Zambia (Republic of) top-level domain (ZM-DOM)
114	940406	Iran (Islamic Republic of) top-level domain (IR2-DOM)
115	940407	Russia (Russian Federation) top-level domain (RU-DOM)
116	940408	Greenland top-level domain (GL2-DOM)
117	940414	Vietnam (Socialist Republic of) top-level domain (VN-DOM)
118	940415	Guam top-level domain (GU-DOM)
119	940419	Solomon Islands top-level domain (SB2-DOM)
120	940510	Belarus top-level domain (BY-DOM)
121	940517	Saudi Arabia (Kingdom of) top-level domain (SA3-DOM)
122	940525	Panama (Republic of) top-level domain (PA3-DOM)
123	940603	Brunei top-level domain (BN3-DOM)
124	940726	Cyprus (Republic of) top-level domain (CY-DOM)
125	940809	Guinea (Republic of) top-level domain (GN2-DOM)
126	940826	Armenia top-level domain (AM2-DOM)
127	940913	Guyana Top-level Domain top-level domain (GY-DOM)
128	940919	Kazakhstan Top-level Domain top-level domain (KZ-DOM)
129	941104	El Salvador top-level domain (SV2-DOM)
130	941123	Jordan (The Hashemite Kingdom of) top-level domain (JO2-DOM)
131	941212	Gabon (Republic of) top-level domain (GA3-DOM)
132	950103	Bulgaria top level domain (BG-DOM)
133	950119	Ghana top-level domain (GH2-DOM)
134	950120	Monaco (Principality of) top-level domain (MC6-DOM)
135	950125	Nepal top-level domain (NP3-DOM)
136	950127	Luxembourg (Grand Duchy of) top-level domain (LU1-DOM)
137	950214	Cote d'Ivoire (Republic of) top-level domain (CI3-DOM)
138	950216	Anguilla top-level domain (AI3-DOM)
139	950302	Mongolia top-level domain (MN3-DOM)
140	950308	Uganda (Republic of) top-level domain (UG-DOM)
141	950315	Nigeria top-level domain (NG2-DOM)
142	950410	Vanuatu top-level domain (VU-DOM)
143	950419	Micronesia (Federated States of) top-level domain (FM2-DOM)
144	950419	Kiribati top-level domain (KI2-DOM)
145	950429	Cameroon top-level domain (CM2-DOM)
146	950429	Uzbekistan top-level domain (UZ-DOM)
147	950503	Cayman Islands top-level domain (KY-DOM)
148	950712	Kyrgyzstan (Republic of) top-level domain (KG2-DOM)
149	950714	Tanzania (United Republic of) top-level domain (TZ2-DOM)
150	950714	Samoa top-level domain (WS3-DOM)
151	950725	Madagascar top-level domain (MG2-DOM)

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152	950808	Cook Islands top-level domain (CK3-DOM)
153	950816	San Marino (Republic of) top-level domain (SM4-DOM)
154	950831	Virgin Islands (US) top-level domain (VI4-DOM)
155	950911	Vatican City State top-level domain (VA4-DOM)
156	951006	Mauritius top-level domain (MU3-DOM)
157	951015	Ethiopia (Democratic Federal Republic of) top-level domain (ET3-DOM)
158	951115	Angola (Republic of) top-level domain (AO4-DOM)
159	951205	Gibraltar top-level domain (GI3-DOM)
160	951218	Tonga top-level domain (TO5-DOM)
161	960109	Andorra top-level domain (AD7-DOM)
162	960118	Benin (Republic of) top-level domain (BJ3-DOM)
163	960220	Aruba top-level domain (AW4-DOM)
164	960220	Cambodia top-level domain (KH2-DOM)
165	960220	Syria (Syrian Arab Republic) top-level domain (SY2-DOM)
166	960318	Norfolk Island top-level domain (NF3-DOM)
167	960318	Tuvalu top-level domain (TV17-DOM)
168	960319	French Polynesia top-level domain (PF4-DOM)
169	960411	Oman (Sultanate of) top-level domain (OM6-DOM)
170	960424	Central African Republic top-level domain (CF4-DOM)
171	960424	Mauritania top level domain (MR3-DOM)
172	960424	Niger top-level domain (NE5-DOM)
173	960514	Lao People's Democratic Republic top-level domain (LA7-DOM)
174	960522	Djibouti top-level domain (DJ2-DOM)
175	960612	Qatar top-level domain (QA3-DOM)
176	960725	French Guiana top-level domain (GF3-DOM)
177	960807	Guernsey (Channel Islands, Bailiwick of) top-level domain (GG3-DOM)
178	960808	Jersey (Channel Islands, Bailiwick of) top-level domain (JE2-DOM)
179	960814	Bosnia-Herzegovina top-level domain (BA6-DOM)
180	960816	Marshall Islands (Republic of the) top-level domain (MH3-DOM)
181	960819	Yemen top-level domain (YE2-DOM)
182	960905	Togo (Republic of) top-level domain (TG5-DOM)
183	960911	Isle of Man top-level domain (IM6-DOM)
184	960924	Eritrea top-level domain (ER4-DOM)
185	960925	Maldives (Republic of) top-level domain (MV4-DOM)
186	960926	Zaire (Republic of) top-level domain (ZR2-DOM)
187	961021	Burundi (Republic of) top-level domain (BI4-DOM)
188	961021	Cape Verde top-level domain (CV8-DOM)
189	961021	Guadeloupe top-level domain (GP4-DOM)
190	961021	Rwanda (Republic of) top-level domain (RW6-DOM)
191	961022	Northern Mariana Islands top-level domain (MP7-DOM)
192	970103	Malawi top-level domain (MW5-DOM)
193	970114	Congo (Republic of) top-level domain (CG6-DOM)
194	970127	Turks and Caicos Islands top-level domain (TC13-DOM)
195	970204	Guinea-Bissau top-level domain (GW8-DOM)
196	970204	Myanmar top-level domain (MM12-DOM)
197	970220	Virgin Islands (British) top-level domain (VG4-DOM)
198	970306	Haiti top-level domain (HT6-DOM)
199	970306	Montserrat top-level domain (MS13-DOM)
200	970306	Sudan top-level domain (SD18-DOM)
201	970326	Falkland Islands top-level domain (FK3-DOM)
202	970328	Gambia top-level domain (GM6-DOM)
203	970328	Martinique top-level domain (MQ5-DOM)
204	970407	French Reunion Island top-level domain (RE12-DOM)
205	970409	Liberia top-level domain (LR6-DOM)
206	970423	Libya top-level domain (LY4-DOM)

207	970424	Christmas Island top-level domain (CX11-DOM)
208	970509	Iraq top-level domain (IQ11-DOM)
209	970509	Seychelles top-level domain (SC24-DOM)
210	970509	Sierra Leone top-level domain (SL7-DOM)
211	970509	East Timor top-level domain (TP5-DOM)
212	970530	Turkmenistan top-level domain (TM9-DOM)
213	970612	American Samoa top-level domain (AS17-DOM)
214	970612	Palau top-level domain (PW8-DOM)
215	970620	Niue top-level domain (NU9-DOM)
216	970710	Equatorial Guinea top-level domain (GQ5-DOM)
217	970710	Pitcairn Island top-level domain (PN5-DOM)
218	970716	Bhutan top-level domain (BT8-DOM)
219	970724	Heard and McDonald Islands top-level domain (HM9-DOM)
220	970731	South Georgia and the South Sandwich Islands top-level domain (GS13-DOM)
221	970820	Congo (The Democratic Republic of the) top-level domain (CD27-DOM)
222	970820	Saint-Pierre and Miquelon top-level domain (PM11-DOM)
223	970821	Bouvet Island top-level domain (BV4-DOM)
224	970821	Svalbard and Jan Mayen Islands top-level domain (SJ5-DOM)
225	970826	French Southern Territories top-level domain (TF13-DOM)
226	970828	Somalia top-level domain (SO10-DOM)
227	970916	British Indian Ocean Territory top-level domain (IO5-DOM)
228	970923	St. Helena top-level domain (SH9-DOM)
229	971013	Cocos (Keeling) Islands top-level domain (CC24-DOM)
230	971016	Afghanistan top-level domain (AF12-DOM)
231	971103	Chad Republic top-level domain (TD9-DOM)
232	971107	Sao Tome and Principe top-level domain (ST20-DOM)
233	971107	Tokelau Islands top-level domain (TK11-DOM)
234	971114	Wallis and Futuna Islands top-level domain (WF7-DOM)
235	971117	Mayotte top-level domain (YT6-DOM)
236	971204	US Minor Outlying Islands top-level domain (UM8-DOM)
237	971211	Tajikistan top-level domain (TJ19-DOM)
238	971219	Ascension Island top-level domain (AC24-DOM)
239	980330	Nauru Island top-level domain (NR8-DOM)
240	980608	Comoros top-level domain (KM15-DOM)
241	990520	Bangladesh top-level domain (BD22-DOM)
242	000322	Palestinian Territory top-level domain

ISO3166-1 country codes are related to countries and territories, the status of country or territory may change over time

The RIPE NCC is trying to keep track of changes of country codes in ISO 3166/MA tables, at

<ftp://ftp.ripe.net/iso3166-countrycodes.txt> .

About this document.

This paper is an individual contribution to the ITU Workshop on Member States' experiences with ccTLD. The author believes that ccTLD IANA archives are essential part to the understanding of ccTLD experiences and expectations.

About the author.

Elisabeth Porteneuve is Counsel to General Director of AFNIC and Network Department Manager at CNRS (CETP laboratory).

She was serving as Director of CENTR in 1999, <http://www.centri.org>, currently she is chairman of CENTR IANA WG.

Elected by the ccTLDs in October 2000, she has been serving two years mandate on the DNSO Names Council. Her last notable action was to prepare the motion on ccTLD name servers' updates, cf. <http://www.dnsso.org/clubpublic/council/Arc11/msg00035.html>, which, after debate and amendment, has been voted and ratified by the ICANN Names Council in Shanghai.

She is member to the ICANN Internationalized Domain Names (IDN) Committee

<http://www.icann.org/committees/idn/> .

She dedicated thousand of hours to build and run the ICANN/DNSO Secretariat between 1999 and 2001, cf. <http://www.dnsso.org/secretariat/2002.DNSO-3years.html> .

In 1980s-1990s she was actively involved in international connectivity projects for space agencies and between European networks and the NSFNET.

She was Vice-President of EARN France in 1989/90, working with EARN-Europe and many Polish colleagues to connect Poland to EARN/BitNet networks.

She is Internet Society Pioneer.

She was Founding Member and Vice-President of French Chapter of the Internet Society at its origin in 1996.
