LAMPIRAN

Lampiran 1. File Pacht dan konfigurasi BIND

- **File Patch BIND**

Dengan melakukan patch terhadap BIND maka akan dapat menambah kemampuan bind dalam melakukan pemfilteran terhadap query informasi sebuah domain. Dengan integrasi ini, memungkinkan option view pada bind dengan konfigurasi kode negara. Patch ini akan memdofikasi file :

- lib/dns/include/dns/acl.h, pada file ini akan dilakukan penambahan jenis baru dari access control list (acl) yaitu dns_aclelementtype_ipcountry
- lib/dns/acl.c, dns_aclelement_match untuk menambahan fungsi pencocokan terhadap jenis ipcountry dari komponen access control list (acl)
- lib/isccfg/parser.c, untuk meakukan parsing jenis baru dari access control list (acl) terhadap file konfigurasi.

Berikut adalah 40 baris file pacth BIND agar dapat di integrasikan dengan Maxmind's GeoIP Database.

```
diff -ruN bind-9.4.1-P1.orig/lib/dns/acl.c bind-9.4.1-
P1/lib/dns/acl.c
--- bind-9.4.1-P1.orig/lib/dns/acl.c  Thu Mar  2 01:37:21 2006
+++ bind-9.4.1-P1/lib/dns/acl.c       Tue Aug 14 16:56:34 2007
@@ -21,12 +21,15 @@
 #include <config.h>
+#include <GeoIP.h>
 #include <isc/mem.h>
 #include <isc/string.h>
 #include <isc/util.h>
 #include <dns/acl.h>
+static GeoIP *geoip = NULL;
+
 isc_result_t
 dns_acl_create(isc_mem_t *mctx, int n, dns_acl_t **target) {
        isc_result_t result;
@@ -207,6 +210,27 @@
                                        &e->u.ip_prefix.address,
                                        e->u.ip_prefix.prefixlen))
                        goto matched;
+               break;
+
+       case dns_aclelementtype_ipcountry:
+               /* We only match V4 addresses */
```

```
+               if (reqaddr->family == AF_INET) {
+                       /* Country match */
+
+                       if (NULL == geoip) {
+                               geoip =
GeoIP_new(GEOIP_MEMORY_CACHE);
+                       }
+                       if (NULL != geoip) {
+                               const char *value;
+
+                               value =
GeoIP_country_code_by_addr(geoip,inet_ntoa(reqaddr->type.in));
+                               if ((NULL != value) && (2 ==
strlen(value))) {
+                                       if ((e->u.country[0] ==
value[0]) && (e->u.country[1] == value[1])) {
+                                               goto matched;
+                                       }
+                               }
+                       }
+               }
                break;
                case dns_aclelementtype_keyname:
diff -ruN bind-9.4.1-P1.orig/lib/dns/include/dns/acl.h bind-9.4.1-
P1/lib/dns/include/dns/acl.h
--- bind-9.4.1-P1.orig/lib/dns/include/dns/acl.h     Thu Mar  2
01:37:21 2006
+++ bind-9.4.1-P1/lib/dns/include/dns/acl.h   Tue Aug 14 16:58:28
2007
@@ -47,6 +47,7 @@

 typedef enum {
        dns_aclelementtype_ipprefix,
+       dns_aclelementtype_ipcountry,
        dns_aclelementtype_keyname,
        dns_aclelementtype_nestedacl,
        dns_aclelementtype_localhost,
@@ -55,6 +56,7 @@
 } dns_aclelemettype_t;

 typedef struct dns_aclipprefix dns_aclipprefix_t;
+typedef char dns_aclipcountry[3];

 struct dns_aclipprefix {
        isc_netaddr_t address; /* IP4/IP6 */
@@ -66,6 +68,7 @@
        isc_boolean_t negative;
        union {
                dns_aclipprefix_t ip_prefix;
+               dns_aclipcountry       country;
                dns_name_t       keyname;
                dns_acl_t        *nestedacl;
        } u;
diff -ruN bind-9.4.1-P1.orig/lib/isccfg/aclconf.c bind-9.4.1-
P1/lib/isccfg/aclconf.c
--- bind-9.4.1-P1.orig/lib/isccfg/aclconf.c   Thu Mar  2 01:37:22
2006
+++ bind-9.4.1-P1/lib/isccfg/aclconf.cTue Aug 14 16:51:48 2007
@@ -228,6 +228,12 @@
```

```
                        }  else if (strcasecmp(name, "none") == 0)
{
                                de->type = dns_aclelementtype_any;
                                de->negative = ISC_TF(! de-
>negative);
+                       } else if ((0 == (strncmp("country_", name,
8))) && (10 == strlen(name))) {
+                               /* It is a country code */
+                               de->type =
dns_aclelementtype_ipcountry;
+                               de->u.country[0] = name[9];
+                               de->u.country[1] = name[10];
+                               de->u.country[2] = '\0';
                        } else {
                                de->type =
dns_aclelementtype_nestedacl;
                                result = convert_named_acl(ce,
cctx, lctx,
```

Installasi BIND beserta patch GeoIP

Langkah-langkah yang harus dilakukan dalam instalasi GeoDNS menggunakan bind adalah sebagai berikut :

Download Source File

- `http://www.caraytech.com/geodns/bind-9.2.4-geodns-patch.tar.gz`
- `http://www.maxmind.com/download/geoip/api/c/GeoIP.tar.gz`
- `ftp://ftp.isc.org/isc/bind9/9.2.4/bind-9.2.4.tar.gz`

Unpack File

- Unpack file ke dalam direktory `/usr/local/src/`
- Compile dan Install GeoIP kedalam direktory `/usr/local/geoip`
  - `./configure --prefix=/usr/local/geoip`
  - `make`
  - `make check`
  - `make install`

Install bind

- `cd /usr/local/src`
- `tar -xvzf bind-9.2.4.tar.gz`
- `cd bind-9.2.4`
- `patch -p1 < ../bind-9.2.4-geodns-patch/patch.diff`
- `di fedora [root@IS-2600 bind-9.2.4]# yum install geoip`
- `ini baru mau`

- `CFLAGS="-I/usr/local/geoip/include" LDFLAGS="-L/usr/local/geoip/lib -lGeoIP" ./configure –prefix=/usr/local/bind`

- `make && make install`

- **File Konfigurasi BIND**

Ada lima file yang di butuhkan dalam melakukan konfigurasi BIND, namun semua file konfigurasi pada dasarnya membutuhkan tiga file yaitu:

- File konfigurasi named, atau file named.conf mendefenisikan parameter dasar dan menunjuk ke file informasi database domain.
- File hints, hints atau cache yaitu file yang menyediakan nama dan alamat dari root server yang akan di gunakan.
- File host local, yaitu file yang berisi konfigurasi dan informasi tentang localhost atau alamat loopback

Dua file lainnya digunakan untuk melakukan konfigurasi name server sebagai primary (master) server, yaitu:

- File zone, file zone ini mendefinisikan informasi dan pemetaan dari nama host menjadi alamat IP, informasi server email (MX atau Mail eXchanger), informasi domain dan sebagainya.
- File zone reverse, yaitu file yang memetakan alamat IP menjadi nama host.

Konfigurasi file named.conf yang digunakan untuk percobaan.

```
options {
        directory "/var/named";
        allow-transfer { 202.152.18.0/24; };
        pid-file "/var/named/named.pid";
};
logging {
        category lame-servers { null; };
};
zone "." IN {
        type hint;
        file "named.root";
};
zone "localhost" IN {
        type master;
        file "db.localhost";
        allow-update { none; };
};

zone "0.0.127.in-addr.arpa" IN {
        type master;
        file "db.127.0.0";
        allow-update { none; };
};

;pengelompokan untuk negara-negara dari benua australia
view "au" {
      match-clients {
```

```
                    country_AS; country_AU; country_CK; country_FJ;
                    country_FM; country_GU; country_KI; country_MH;
                    country_MP; country_NC; country_NF; country_NR;
                    country_NU; country_NZ; country_PF; country_PG;
                    country_PW; country_SB; country_TK; country_TO;
                    country_TV; country_UM; country_VI; country_VU;
                    country_WF; country_WS;
                              };
      zone "my-indonesia.info" {
             type master;
             file "db.au.my-indonesia.info";
      };
         zone "." IN {
                 type hint;
                 file "named.root";
         };
};

;pengelompokan untuk negara-negara dari benua amerika
view "us" {
      match-clients {
                    country_AG; country_AI; country_AN; country_AR;
                    country_AW; country_BB; country_BM; country_BO;
                    country_BR; country_BS; country_BZ; country_CA;
                    country_CL; country_CO; country_CR; country_CU;
                    country_DM; country_DO; country_EC; country_FK;
                    country_GD; country_GF; country_GL; country_GP;
                    country_GT; country_GY; country_HN; country_HT;
                    country_JM; country_KN; country_KY; country_LC;
                    country_MQ; country_MS; country_MX; country_NI;
                    country_PA; country_PE; country_PR; country_PY;
                    country_SR; country_SV; country_TT; country_US;
                    country_UY; country_VC; country_VE; country_VG;
                              };
      zone "my-indonesia.info" {
             type master;
             file "db.us.my-indonesia.info";
      };
         zone "." IN {
                 type hint;
                 file "named.root";
         };

};

;pengelompokan untuk negara-negara dari benua eropa
view "uk" {
      match-clients {
                    country_DZ; country_AO; country_BJ; country_BW;
                    country_BF; country_BI; country_CM; country_CV;
                    country_CF; country_TD; country_KM; country_CG;
                    country_CI; country_DJ; country_EG; country_GQ;
                    country_ER; country_ET; country_GA; country_GM;
                    country_GH; country_GN; country_GW; country_KE;
                    country_LS; country_LR; country_LY; country_MG;
                    country_MW; country_ML; country_MR; country_MU;
                    country_YT; country_MA; country_MZ; country_NA;
                    country_NE; country_NG; country_RE; country_RW;
                    country_ST; country_SN; country_SC; country_SL;
```

```
                    country_SO; country_ZA; country_SD; country_SZ;
                    country_CD; country_TG; country_TN; country_UG;
                    country_TZ; country_ZM; country_ZW; country_AD;
                    country_AL; country_AT; country_BA; country_BE;
                    country_BG; country_BY; country_CH; country_CS;
                    country_CY; country_CZ; country_DE; country_DK;
                    country_EE; country_ES; country_FI; country_FO;
                    country_FR; country_GB; country_GI; country_GR;
                    country_HR; country_HU; country_IE; country_IS;
                    country_IT; country_LI; country_LT; country_LU;
                    country_LV; country_MC; country_MD; country_MK;
                    country_MT; country_NL; country_NO; country_PL;
                    country_PT; country_RO; country_RU; country_SE;
                    country_SI; country_SK; country_SM; country_UA;
                         country_VA;
                           };
      zone "my-indonesia.info" {
             type master;
             file "db.uk.my-indonesia.info";
       };
          zone "." IN {
                  type hint;
                  file "named.root";
          };
};

;pengelompokan untuk negara-negara dari benua asia
view "sg" {
       match-clients {
                    country_AF; country_AE; country_AM; country_AZ;
                    country_BD; country_BH; country_BN; country_BT;
                    country_CN; country_GE; country_HK; country_ID;
                    country_IL; country_IN; country_IO; country_IQ;
                    country_IR; country_JO; country_JP; country_KG;
                    country_KH; country_KR; country_KW; country_KZ;
                    country_LA; country_LB; country_LK; country_MM;
                    country_MN; country_MO; country_MV; country_MY;
                    country_NP; country_OM; country_PH; country_PK;
                    country_PS; country_QA; country_SA; country_SG;
                    country_SY; country_TH; country_TJ; country_TL;
                    country_TM; country_TR; country_TW; country_UZ;
                    country_VN; country_YE;
                           };
       zone "my-indonesia.info" {
              type master;
              file "db.sg.my-indonesia.info";
       };
          zone "." IN {
                  type hint;
                  file "named.root";
          };
};

;pengelompokan untuk negara-negara yang IP Address yang
;tidak terdaftar maka informasi zone untuk domain
;my-indonesia.info akan dimabil dari file db.other.my-
;indonesia.info

view "other" {
```

```
        match-clients { any; };
        zone "my-indonesia.info" {
              type master;
              file "db.other.my-indonesia.info";
        };
           zone "." IN {
                   type hint;
                   file "named.root";
           };
};
```

Daftar Kode Negara

CTRY	CNTRY	Country Name
AF	AFG	AFGHANISTAN
AL	ALB	ALBANIA
DZ	DZA	ALGERIA
AS	ASM	AMERICAN SAMOA
AD	AND	ANDORRA
AO	AGO	ANGOLA
AI	AIA	ANGUILLA
AQ	ATA	ANTARCTICA
AG	ATG	ANTIGUA AND BARBUDA
AR	ARG	ARGENTINA
AM	ARM	ARMENIA
AW	ABW	ARUBA
AU	AUS	AUSTRALIA
AT	AUT	AUSTRIA
AZ	AZE	AZERBAIJAN
BS	BHS	BAHAMAS
BH	BHR	BAHRAIN
BD	BGD	BANGLADESH
BB	BRB	BARBADOS
BY	BLR	BELARUS
BE	BEL	BELGIUM
BZ	BLZ	BELIZE
BJ	BEN	BENIN
BM	BMU	BERMUDA
BT	BTN	BHUTAN
BO	BOL	BOLIVIA
BA	BIH	BOSNIA AND HERZEGOVINA
BW	BWA	BOTSWANA
BR	BRA	BRAZIL
IO	IOT	BRITISH INDIAN OCEAN TERRITORY
BN	BRN	BRUNEI DARUSSALAM
BG	BGR	BULGARIA
BF	BFA	BURKINA FASO
BI	BDI	BURUNDI
KH	KHM	CAMBODIA
CM	CMR	CAMEROON
CA	CAN	CANADA
CV	CPV	CAPE VERDE
KY	CYM	CAYMAN ISLANDS
CF	CAF	CENTRAL AFRICAN REPUBLIC
TD	TCD	CHAD
CL	CHL	CHILE
CN	CHN	CHINA
CO	COL	COLOMBIA
KM	COM	COMOROS
CG	COG	CONGO
CK	COK	COOK ISLANDS
CR	CRI	COSTA RICA
CI	CIV	COTE D'IVOIRE

HR	HRV	CROATIA
CU	CUB	CUBA
CY	CYP	CYPRUS
CZ	CZE	CZECH REPUBLIC
DK	DNK	DENMARK
DJ	DJI	DJIBOUTI
DM	DMA	DOMINICA
DO	DOM	DOMINICAN REPUBLIC
EC	ECU	ECUADOR
EG	EGY	EGYPT
SV	SLV	EL SALVADOR
GQ	GNQ	EQUATORIAL GUINEA
ER	ERI	ERITREA
EE	EST	ESTONIA
ET	ETH	ETHIOPIA
FK	FLK	FALKLAND ISLANDS (MALVINAS)
FO	FRO	FAROE ISLANDS
FM	FSM	FEDERATED STATES OF MICRONESIA
FJ	FJI	FIJI
FI	FIN	FINLAND
FR	FRA	FRANCE
GF	GUF	FRENCH GUIANA
PF	PYF	FRENCH POLYNESIA
GA	GAB	GABON
GM	GMB	GAMBIA
GE	GEO	GEORGIA
DE	DEU	GERMANY
GH	GHA	GHANA
GI	GIB	GIBRALTAR
GR	GRC	GREECE
GL	GRL	GREENLAND
GD	GRD	GRENADA
GP	GLP	GUADELOUPE
GU	GUM	GUAM
GT	GTM	GUATEMALA
GN	GIN	GUINEA
GW	GNB	GUINEA-BISSAU
GY	GUY	GUYANA
HT	HTI	HAITI
VA	VAT	HOLY SEE (VATICAN CITY STATE)
HN	HND	HONDURAS
HK	HKG	HONG KONG
HU	HUN	HUNGARY
IS	ISL	ICELAND
IN	IND	INDIA
ID	IDN	INDONESIA
IQ	IRQ	IRAQ
IE	IRL	IRELAND
IR	IRN	ISLAMIC REPUBLIC OF IRAN
IL	ISR	ISRAEL
IT	ITA	ITALY
JM	JAM	JAMAICA

JP	JPN	JAPAN
JO	JOR	JORDAN
KZ	KAZ	KAZAKHSTAN
KE	KEN	KENYA
KI	KIR	KIRIBATI
KW	KWT	KUWAIT
KG	KGZ	KYRGYZSTAN
LA	LAO	LAO PEOPLE'S DEMOCRATIC REPUBLIC
LV	LVA	LATVIA
LB	LBN	LEBANON
LS	LSO	LESOTHO
LR	LBR	LIBERIA
LY	LBY	LIBYAN ARAB JAMAHIRIYA
LI	LIE	LIECHTENSTEIN
LT	LTU	LITHUANIA
LU	LUX	LUXEMBOURG
MO	MAC	MACAO
MG	MDG	MADAGASCAR
MW	MWI	MALAWI
MY	MYS	MALAYSIA
MV	MDV	MALDIVES
ML	MLI	MALI
MT	MLT	MALTA
MH	MHL	MARSHALL ISLANDS
MQ	MTQ	MARTINIQUE
MR	MRT	MAURITANIA
MU	MUS	MAURITIUS
YT	MYT	MAYOTTE
MX	MEX	MEXICO
MC	MCO	MONACO
MN	MNG	MONGOLIA
MS	MSR	MONTSERRAT
MA	MAR	MOROCCO
MZ	MOZ	MOZAMBIQUE
MM	MMR	MYANMAR
NA	NAM	NAMIBIA
NR	NRU	NAURU
NP	NPL	NEPAL
NL	NLD	NETHERLANDS
AN	ANT	NETHERLANDS ANTILLES
NC	NCL	NEW CALEDONIA
NZ	NZL	NEW ZEALAND
NI	NIC	NICARAGUA
NE	NER	NIGER
NG	NGA	NIGERIA
NU	NIU	NIUE
NF	NFK	NORFOLK ISLAND
MP	MNP	NORTHERN MARIANA ISLANDS
NO	NOR	NORWAY
OM	OMN	OMAN
PK	PAK	PAKISTAN
PW	PLW	PALAU

PS	PSE	PALESTINIAN TERRITORY, OCCUPIED
PA	PAN	PANAMA
PG	PNG	PAPUA NEW GUINEA
PY	PRY	PARAGUAY
PE	PER	PERU
PH	PHL	PHILIPPINES
PL	POL	POLAND
PT	PRT	PORTUGAL
PR	PRI	PUERTO RICO
QA	QAT	QATAR
KR	KOR	REPUBLIC OF KOREA
MD	MDA	REPUBLIC OF MOLDOVA
RE	REU	REUNION
RO	ROM	ROMANIA
RU	RUS	RUSSIAN FEDERATION
RW	RWA	RWANDA
KN	KNA	SAINT KITTS AND NEVIS
LC	LCA	SAINT LUCIA
VC	VCT	SAINT VINCENT AND THE GRENADINES
WS	WSM	SAMOA
SM	SMR	SAN MARINO
ST	STP	SAO TOME AND PRINCIPE
SA	SAU	SAUDI ARABIA
SN	SEN	SENEGAL
CS	SCG	SERBIA AND MONTENEGRO
SC	SYC	SEYCHELLES
SL	SLE	SIERRA LEONE
SG	SGP	SINGAPORE
SK	SVK	SLOVAKIA
SI	SVN	SLOVENIA
SB	SLB	SOLOMON ISLANDS
SO	SOM	SOMALIA
ZA	ZAF	SOUTH AFRICA
GS	SGS	SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS
ES	ESP	SPAIN
LK	LKA	SRI LANKA
SD	SDN	SUDAN
SR	SUR	SURINAME
SZ	SWZ	SWAZILAND
SE	SWE	SWEDEN
CH	CHE	SWITZERLAND
SY	SYR	SYRIAN ARAB REPUBLIC
TW	TWN	TAIWAN
TJ	TJK	TAJIKISTAN
TH	THA	THAILAND
CD	COD	THE DEMOCRATIC REPUBLIC OF THE CONGO
MK	MKD	THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA
TL	TLS	TIMOR-LESTE
TG	TGO	TOGO
TK	TKL	TOKELAU
TO	TON	TONGA
TT	TTO	TRINIDAD AND TOBAGO

TN	TUN	TUNISIA
TR	TUR	TURKEY
TM	TKM	TURKMENISTAN
TV	TUV	TUVALU
UG	UGA	UGANDA
UA	UKR	UKRAINE
AE	ARE	UNITED ARAB EMIRATES
GB	GBR	UNITED KINGDOM
TZ	TZA	UNITED REPUBLIC OF TANZANIA
US	USA	UNITED STATES
UM	UMI	UNITED STATES MINOR OUTLYING ISLANDS
UY	URY	URUGUAY
UZ	UZB	UZBEKISTAN
VU	VUT	VANUATU
VE	VEN	VENEZUELA
VN	VNM	VIET NAM
VG	VGB	VIRGIN ISLANDS, BRITISH
VI	VIR	VIRGIN ISLANDS, U.S.
WF	WLF	WALLIS AND FUTUNA
YE	YEM	YEMEN
ZM	ZMB	ZAMBIA
ZW	ZWE	ZIMBABWE

NB :

2 CTRY : 2 character international country code
3 CNTRY : Country Abbreviation. Usually 3 Character representation
4 COUNTRY : Country Name. Full Country Name

Lampiran 2. File Informasi database name server

Berikut beberapa keterangan file konfigurasi informasi zone yang digunakan untuk percobaan:

- **Start of Authority Record (SOA)**

  Fungsi Mendefenisikan hostname yang merupakan awal dari suatu zone. Untuk setiap zone hanya mempunyai sebuah SOA. SOA biasanya dideklarasikan pada awal zona file.

```
Format [zone] IN SOA origin contact (
serial
refresh
retry
expire
minimum
)
```

  Komponen SOA record terdiri dari:

  - *Zone,* mendefiniskan zone dari sebuah domain
  - *Origin,* Mendeklarasikan hostname yang merupakan primary master server untuk domain.
  - *Contact,* Mendeklarasikan e-mail address administrator yang bertanggung-jawab terhadap domain.
  - *Serial,* Merupakan nomor seri dari zona file. Serial number ini harus bertambah setiap ada perubahan data pada zona file. Serial number ini digunakan oleh secondary server untuk melakukan pengecekan apakah ada perubahan zona file pada primary server.
  - *Refresh,* Komponen ini mendeklarasikan selang waktu (dalam detik) yang diperlukan oleh secondary server untuk melakukan pengecekan terhadap perubahan zona file pada primary server.
  - *Retry,* Komponen ini menentukan berapa lama (dalam detik) secondary server menunggu untuk mengulang pengecekan terhadap primary server apabila primary server tidak memberikan respon pada saat proses refresh.

- *Expire,* Komponen ini menentukan berapa lama (dalam detik) zona file dipertahankan pada secondary server apabila secondary server tidak dapat melakukan zona refresh.
- *Minimum,* Komponen ini menentukan nilai default time to live (ttl) untuk semua resource record pada zona file. Sebaiknya nilai ini dibuat sebesar mungkin, karena jarang sekali perubahan pada suatu hostname begitu hostname tersebut diberi IP address dan MX record.

- **Name Server Record (NS)**

  Fungsi NS record merupakan identifikasi authoritative server untuk suatu zona. Authoritative server untuk suatu zona sebaiknya lebih dari satu sebagai tindakan preventif apabila primary master server tidak bisa diakses oleh secondary server.

  Format [*domain*] **IN NS** *server*

  Komponen Name Server Record:

  - *domain* Authoritative server untuk domain ini adalah DNS server yang tertulis pada komponen *server.*
  - *server* Hostname dari komputer yang merupakan authoritative DNS server untuk domain yang tercantum pada komponen *domain*. Komponen ini ditulis secara FQDN.

- **Address Record (A)**

  Fungsi Untuk memetakan hostname ke IP address.

  Format [*host*] **IN A** *address*

  Komponen Address Record:

  - *Host,* Nama host yang hostnya seperti yang tercantum pada komponen Address, hostname ditulis relatif terhadap domain dari host tersebut.

- *Address,* adalah IP address untuk host dan ditulis dalam bentuk *dotted-decimal*.

Suatu host yang bersifat multihoming, yaitu host yang terhubung ke beberapa network dengan menggunakan lebih dari satu network interface maka record address host tersebut dapat lebih dari satu.

2. Mail Exchanger Record (MX)

Fungsi MX record digunakan untuk meredirect mail untuk suatu host ataupun suatu domain ke host yang berfungsi sebagai mail server. MX record sangat berguna untuk suatu domain yang tidak menjalankan mail software. Mail yang ditujukan untuk host-host yang terdapat pada domain ini akan di redirect ke host yang menjalankan mail software.

Format [*name*] **IN MX** *preference host*

Komponen Mail Exchanger:

- *Name,* Hostname ataupun domain tujuan pengiriman mail. Bila tujuan pengiriman adalah suatu domain pada suatu zona file, maka bagian ini cukup dikosongkan.
- *Preference,* Menentukan tingkat prioritas mail server yang akan digunakan untuk menredirect mail ke name. Sebuah host ataupun suatu domain bisa mempunyai beberapa mail server dan mail server yang digunakan pertama kali adalah mail server dengan prioritas treating dan apabila mail server ini gaggle dihubungi maka digunakan prioritas berikutnya dan demikian seterusnya. Mail server dengan preference tournedos merupakan prioritas treating.
- *Host,* Adalah hostname dari mail server yang digunakan untuk menredirect mail ke host ataupun domain yang didefenisikan pada field name.

- **Canonical Name Record (CNAME)**

Fungsi Mendefenisikan alias name atau nickname untuk suatu host.

Format *nickname* **IN CNAME** *host*

Komponen dari Canonical Name Record adalah:

- *Nickname,* Adalah alias nama untuk host yang tercantum pada filed *host*
- *Host,* Hostname yang alias namenya tercantum pada field *nickname*. Hostname harus ditulis secara FQDN dan tidak boleh merupakan alias name.

File konfigurasi db.127.0.0

```
$TTL 86400
@ IN SOA localhost. root.localhost. (
        2003021500 ; serial
        28800 ; refresh
        14400 ; retry
        3600000 ; expiry
        86400 ) ; minimum
        IN      NS      localhost.
1       IN      PTR     localhost.
```

o **File konfigurasi db.localhost**

```
$TTL 86400
$ORIGIN localhost.
@ IN SOA localhost. root.localhost. (
        2003021500 ; serial
        28800 ; refresh
        14400 ; retry
        3600000 ; expiry
        86400 ) ; minimum


        IN      NS      localhost.
        IN      A       127.0.0.1
```

File konfigurasi db.us.my-indonesia.info

```
$TTL    86400
$ORIGIN my-indonesia.info.
@       IN      SOA     gslb1.indo.com.  hostmaster.my-
indonesia.info.  (
                                2007082301    ; Serial
                                     10800    ; Refresh
                                      3600    ; Retry
                                   3600000    ; Expire
                                     86400 )  ; Minimum
        IN      NS      gslb1.indo.com.
        IN      NS      gslb2.indo.com.
        IN      MX 10   mail.my-indonesia.info.
```

```
##########################################
# GSLB for my-indonesia.info
##########################################
@       IN      A       64.38.56.178
www     IN      CNAME   @
indo    IN  CNAME  @

au      IN  A       203.89.95.140
uk      IN  A       87.117.224.155
sg      IN  A       203.211.140.139
us      IN  A       64.38.56.178


##########################################
# Name Server for my-indonesia.info
##########################################
ns1     IN      A       87.117.224.155
ns2     IN      A       203.89.95.140

##########################################
# Mail Server Indo.Com
##########################################
mail    IN      A       125.161.170.126

##########################################
# Directing to US server
##########################################
ser-us      IN      A       64.38.56.178
blogs   IN      CNAME   ser-us
forum   IN      CNAME   ser-us
```

File konfigurasi db.uk.my-indonesia.info

```
$TTL    86400
$ORIGIN my-indonesia.info.
@       IN      SOA     gslb1.indo.com.  hostmaster.my-
indonesia.info.  (
                                2007082301    ; Serial
                                   10800    ; Refresh
                                    3600    ; Retry
                                 3600000    ; Expire
                                   86400 )  ; Minimum
        IN      NS      gslb1.indo.com.
        IN      NS      gslb2.indo.com.
        IN      MX 10   mail.my-indonesia.info.

##########################################
# GSLB for my-indonesia.info
##########################################
@       IN      A       87.117.224.155
www     IN      CNAME   @
indo    IN      CNAME   @

au      IN      A       203.89.95.140
uk      IN      A       87.117.224.155
sg      IN      A       203.211.140.139
us      IN      A       64.38.56.178
```

```
##########################################
# Name Server for my-indonesia.info
##########################################
ns1     IN      A       87.117.224.155
ns2     IN      A       203.89.95.140

##########################################
# Mail Server Indo.Com
##########################################
mail    IN      A       125.161.170.126

##########################################
# Directing to US server
##########################################
ser-us      IN      A       64.38.56.178
blogs   IN      CNAME   ser-us
forum   IN      CNAME   ser-us
```

File konfigurasi db.sg.my-indonesia.info

```
$TTL    86400
$ORIGIN my-indonesia.info.
@       IN      SOA     gslb1.indo.com.  hostmaster.my-
indonesia.info.  (
                                2007082301    ; Serial
                                   10800    ; Refresh
                                    3600    ; Retry
                                 3600000    ; Expire
                                   86400 )  ; Minimum
        IN      NS      gslb1.indo.com.
        IN      NS      gslb2.indo.com.
        IN      MX 10   mail.my-indonesia.info.

##########################################
# GSLB for my-indonesia.info
##########################################
@       IN      A       203.211.140.139
www     IN      CNAME   @
indo    IN  CNAME @

au      IN      A       203.89.95.140
uk      IN      A       87.117.224.155
sg      IN      A       203.211.140.139
us      IN      A       64.38.56.178


##########################################
# Name Server for my-indonesia.info
##########################################
ns1     IN      A       87.117.224.155
ns2     IN      A       203.89.95.140

##########################################
# Mail Server Indo.Com
##########################################
mail    IN      A       125.161.170.126
```

```
##########################################
# Directing to US server
##########################################
ser-us      IN      A       64.38.56.178
blogs   IN      CNAME   ser-us
forum   IN      CNAME   ser-us
```

File konfigurasi db.au.my-indonesia.info

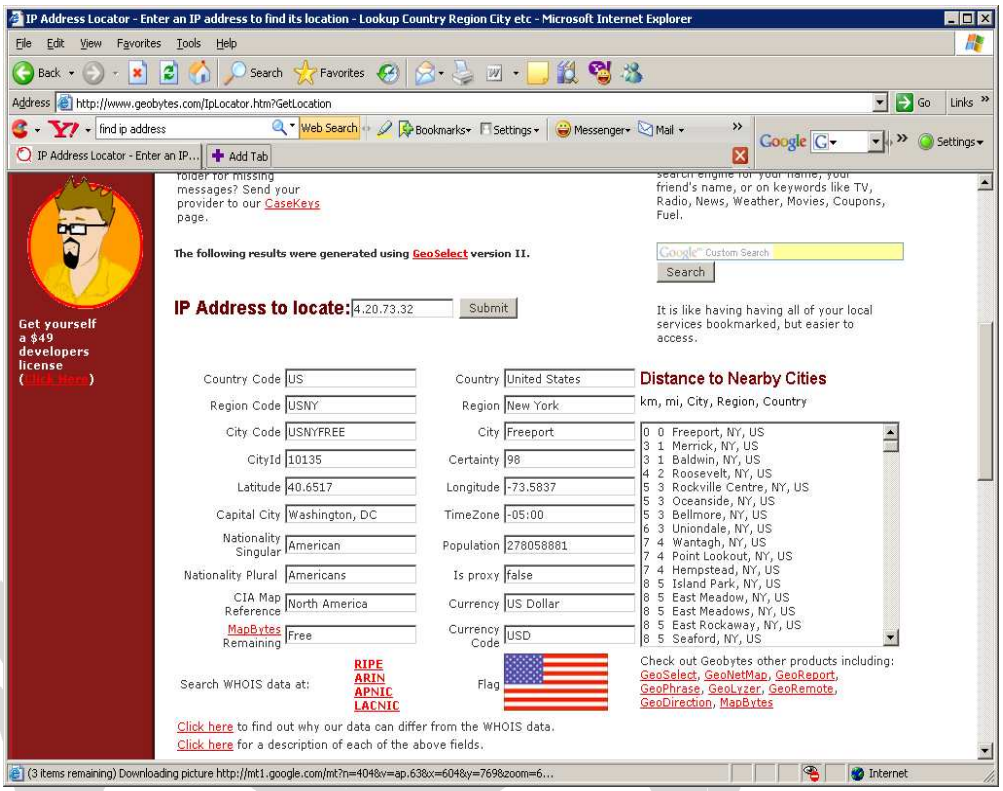
```
$TTL    86400
$ORIGIN my-indonesia.info.
@       IN      SOA     gslb1.indo.com.  hostmaster.my-
indonesia.info.  (
                                2007082301    ; Serial
                                     10800    ; Refresh
                                      3600    ; Retry
                                   3600000    ; Expire
                                     86400 )  ; Minimum
        IN      NS      gslb1.indo.com.
        IN      NS      gslb2.indo.com.
        IN      MX 10   mail.my-indonesia.info.

##########################################
# GSLB for my-indonesia.info
##########################################
@       IN      A       203.89.95.140
www     IN      CNAME   @
indo    IN  CNAME @

au    IN    A     203.89.95.140
uk    IN    A     87.117.224.155
sg    IN    A     203.211.140.139
us    IN    A     64.38.56.178

##########################################
# Name Server for my-indonesia.info
##########################################
ns1     IN      A       87.117.224.155
ns2     IN      A       203.89.95.140

##########################################
# Mail Server Indo.Com
##########################################
mail    IN      A       125.161.170.126

##########################################
# Directing to US server
##########################################
ser-us      IN      A       64.38.56.178
blogs   IN      CNAME   ser-us
forum   IN      CNAME   ser-us
```

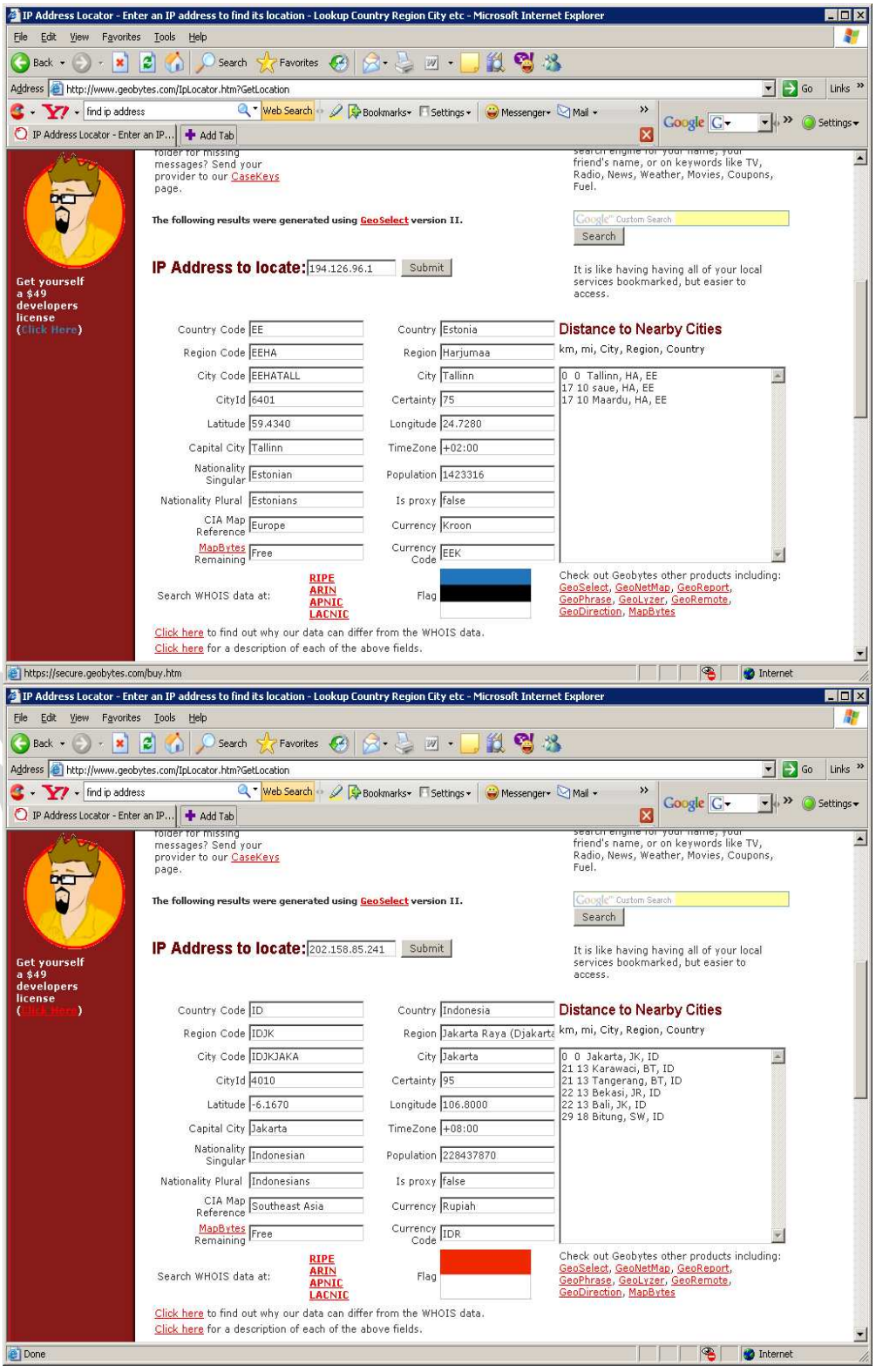
Lampiran 3. Tes Maxmind's GeoIP database dengan tool geoiplookup

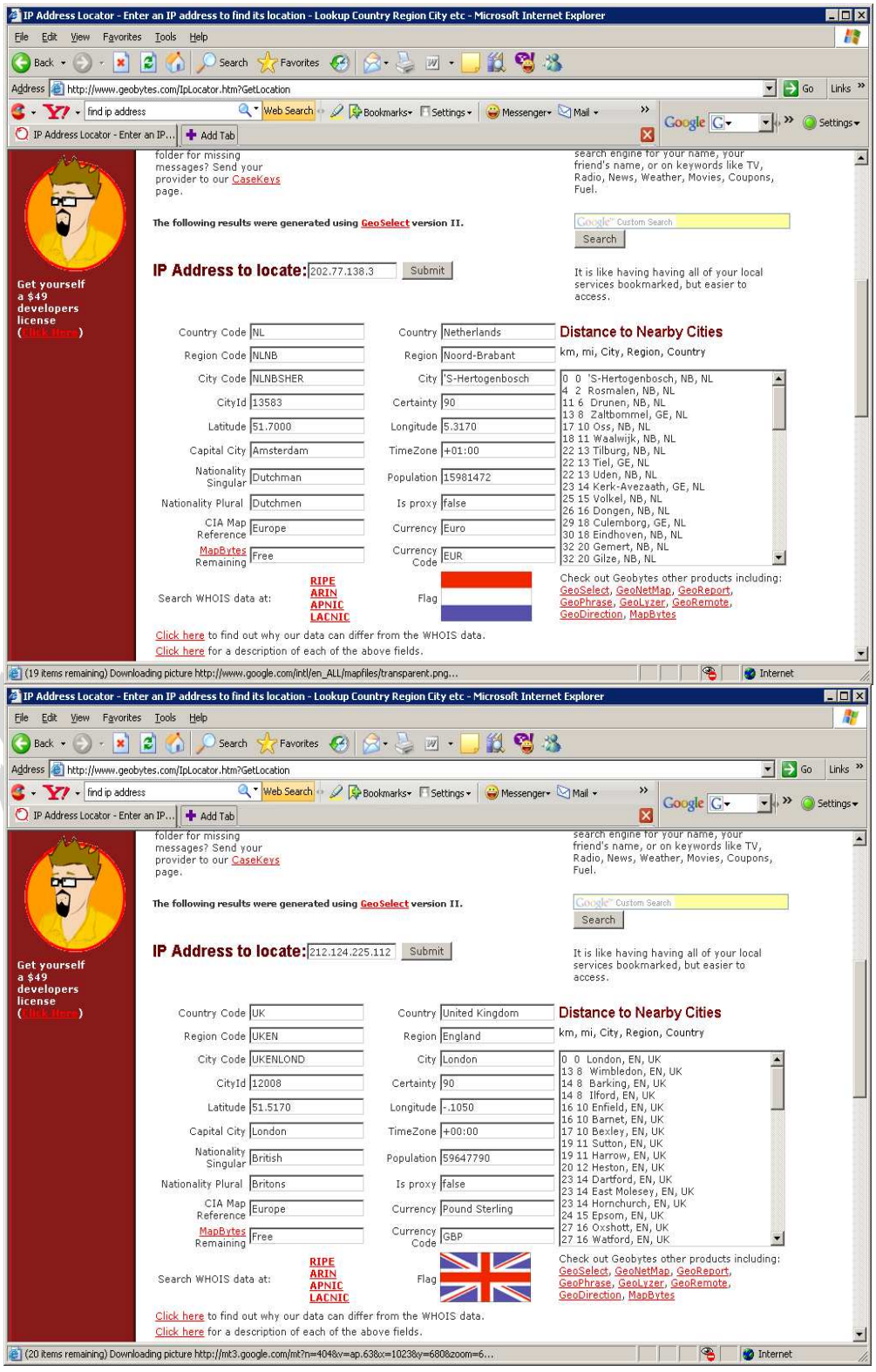
Untuk melakukan verifikasi terhadap Maxmind's GeoIP Database, hal ini untuk memastikan apakah hasil pemetaan IP Address terhadap kode negara yang terinstall pada komputer server sudah sesuai dengan GeoIP Database yang tersedia secara online *(www.maxmind.com dan www.geobytes.com)*

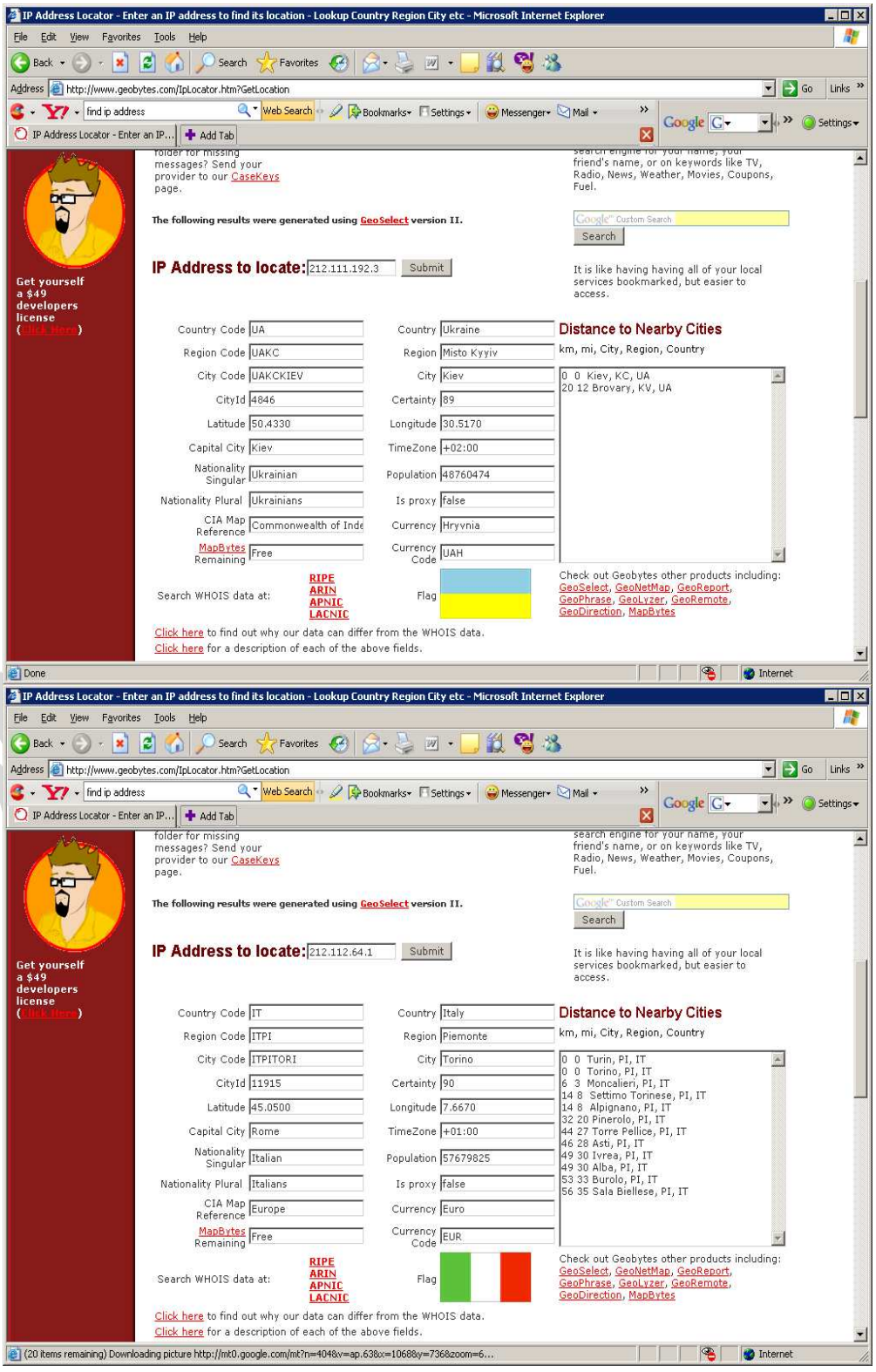
- `[root@localhost bin]# ./geoiplookup 4.20.73.32`
  `GeoIP Country Edition: US, United States`
- `[root@localhost bin]# ./geoiplookup 194.126.96.1`
  `GeoIP Country Edition: EE, Estonia`
- `[root@localhost bin]# ./geoiplookup 202.158.85.241`
  `GeoIP Country Edition: ID, Indonesia`
- `[root@localhost bin]# ./geoiplookup 202.77.138.3`
  `GeoIP Country Edition: PH, Philippines`
- `[root@localhost bin]# ./geoiplookup 212.124.225.112`
  `GeoIP Country Edition: AT, Austria`
- `[root@localhost bin]# ./geoiplookup 212.111.192.3`
  `GeoIP Country Edition: UA, Ukraine`
- `[root@localhost bin]# ./geoiplookup 212.112.64.1`
  `GeoIP Country Edition: IT, Italy`
- `[root@localhost bin]# ./geoiplookup 222.229.96.1`
  `GeoIP Country Edition: JP, Japan`
- `[root@localhost bin]# ./geoiplookup 192.12.232.56`
  `GeoIP Country Edition: PT, Portugal`
- `[root@localhost bin]# ./geoiplookup 24.75.219.216`
  `GeoIP Country Edition: PA, Panama`

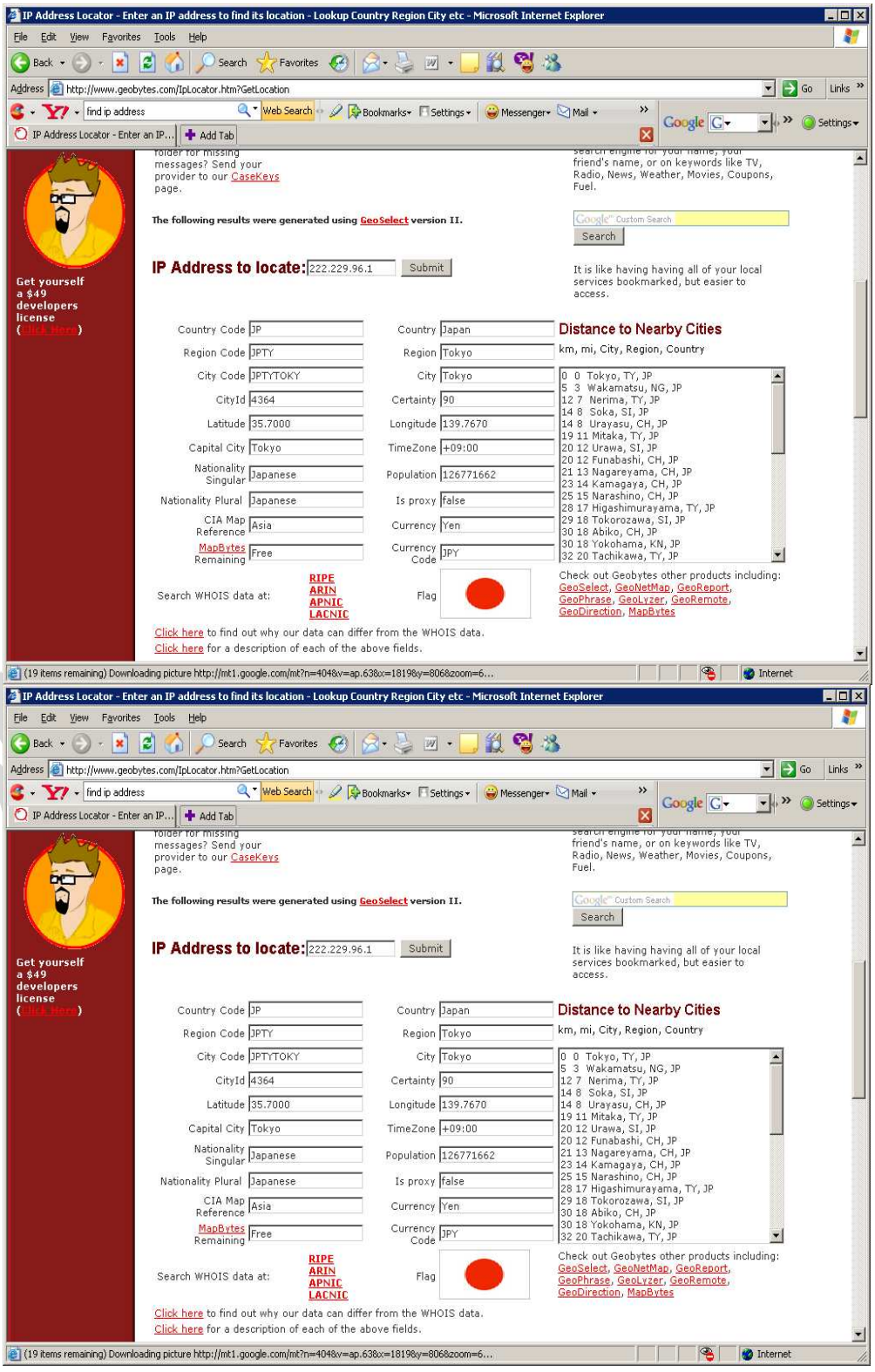
Hasil Pengujian lokasi IP Address dengan tool di www.geobytes.com, pengujian ini dilakukan untuk membandingkan hasil yang diperoleh pada percobaan dengan menggunakan geoiplookup.




IP Address Locator - Enter an IP address to find its location - Lookup Country Region City etc - Microsoft Internet Explorer
http://www.geobytes.com/IpLocator.htm?GetLocation
IP Address to locate: 194.126.96.1
Submit
Country Code EE
Country Estonia
Region Code EEHA
Region Harjumaa
City Code EEHATALL
City Tallinn
CityId 6401
Certainty 75
Latitude 59.4340
Longitude 24.7280
Capital City Tallinn
TimeZone +02:00
Nationality Singular Estonian
Population 1423316
Nationality Plural Estonians
Is proxy false
CIA Map Reference Europe
Currency Kroon
MapBytes Remaining Free
Currency Code EEK
Distance to Nearby Cities
km, mi, City, Region, Country
0 0 Tallinn, HA, EE
17 10 saue, HA, EE
17 10 Maardu, HA, EE
Search WHOIS data at: RIPE ARIN APNIC LACNIC
Flag
Click here to find out why our data can differ from the WHOIS data.
Click here for a description of each of the above fields.
IP Address to locate: 202.158.85.241
Submit
Country Code ID
Country Indonesia
Region Code IDJK
Region Jakarta Raya (Djakarta
City Code IDJKJAKA
City Jakarta
CityId 4010
Certainty 95
Latitude -6.1670
Longitude 106.8000
Capital City Jakarta
TimeZone +08:00
Nationality Singular Indonesian
Population 228437870
Nationality Plural Indonesians
Is proxy false
CIA Map Reference Southeast Asia
Currency Rupiah
MapBytes Remaining Free
Currency Code IDR
Distance to Nearby Cities
km, mi, City, Region, Country
0 0 Jakarta, JK, ID
21 13 Karawaci, BT, ID
21 13 Tangerang, BT, ID
22 13 Bekasi, JR, ID
22 13 Bali, JK, ID
29 18 Bitung, SW, ID
Search WHOIS data at: RIPE ARIN APNIC LACNIC
Flag
Click here to find out why our data can differ from the WHOIS data.
Click here for a description of each of the above fields.


IP Address Locator - Enter an IP address to find its location - Lookup Country Region City etc - Microsoft Internet Explorer
http://www.geobytes.com/IpLocator.htm?GetLocation
folder for missing messages? Send your provider to our CaseKeys page.
search engine for your name, your friend's name, or on keywords like TV, Radio, News, Weather, Movies, Coupons, Fuel.
The following results were generated using GeoSelect version II.
IP Address to locate: 202.77.138.3 Submit
It is like having having all of your local services bookmarked, but easier to access.
Get yourself a $49 developers license (Click here)
Country Code NL
Region Code NLNB
City Code NLNBSHER
CityId 13583
Latitude 51.7000
Capital City Amsterdam
Nationality Singular Dutchman
Nationality Plural Dutchmen
CIA Map Reference Europe
MapBytes Remaining Free
Country Netherlands
Region Noord-Brabant
City 'S-Hertogenbosch
Certainty 90
Longitude 5.3170
TimeZone +01:00
Population 15981472
Is proxy false
Currency Euro
Currency Code EUR
Distance to Nearby Cities
km, mi, City, Region, Country
0 0 'S-Hertogenbosch, NB, NL
4 2 Rosmalen, NB, NL
11 6 Drunen, NB, NL
13 8 Zaltbommel, GE, NL
17 10 Oss, NB, NL
18 11 Waalwijk, NB, NL
22 13 Tilburg, NB, NL
22 13 Tiel, GE, NL
22 13 Uden, NB, NL
23 14 Kerk-Avezaath, GE, NL
25 15 Volkel, NB, NL
26 16 Dongen, NB, NL
29 18 Culemborg, GE, NL
30 18 Eindhoven, NB, NL
32 20 Gemert, NB, NL
32 20 Gilze, NB, NL
Search WHOIS data at: RIPE ARIN APNIC LACNIC
Flag
Check out Geobytes other products including: GeoSelect, GeoNetMap, GeoReport, GeoPhrase, GeoLyzer, GeoRemote, GeoDirection, MapBytes
Click here to find out why our data can differ from the WHOIS data.
Click here for a description of each of the above fields.
(19 items remaining) Downloading picture http://www.google.com/intl/en_ALL/mapfiles/transparent.png...
Internet
IP Address Locator - Enter an IP address to find its location - Lookup Country Region City etc - Microsoft Internet Explorer
http://www.geobytes.com/IpLocator.htm?GetLocation
folder for missing messages? Send your provider to our CaseKeys page.
search engine for your name, your friend's name, or on keywords like TV, Radio, News, Weather, Movies, Coupons, Fuel.
The following results were generated using GeoSelect version II.
IP Address to locate: 212.124.225.112 Submit
It is like having having all of your local services bookmarked, but easier to access.
Get yourself a $49 developers license (Click here)
Country Code UK
Region Code UKEN
City Code UKENLOND
CityId 12008
Latitude 51.5170
Capital City London
Nationality Singular British
Nationality Plural Britons
CIA Map Reference Europe
MapBytes Remaining Free
Country United Kingdom
Region England
City London
Certainty 90
Longitude -.1050
TimeZone +00:00
Population 59647790
Is proxy false
Currency Pound Sterling
Currency Code GBP
Distance to Nearby Cities
km, mi, City, Region, Country
0 0 London, EN, UK
13 8 Wimbledon, EN, UK
14 8 Barking, EN, UK
14 8 Ilford, EN, UK
16 10 Enfield, EN, UK
16 10 Barnet, EN, UK
17 10 Bexley, EN, UK
19 11 Sutton, EN, UK
19 11 Harrow, EN, UK
20 12 Heston, EN, UK
23 14 Dartford, EN, UK
23 14 East Molesey, EN, UK
23 14 Hornchurch, EN, UK
24 15 Epsom, EN, UK
27 16 Oxshott, EN, UK
27 16 Watford, EN, UK
Search WHOIS data at: RIPE ARIN APNIC LACNIC
Flag
Check out Geobytes other products including: GeoSelect, GeoNetMap, GeoReport, GeoPhrase, GeoLyzer, GeoRemote, GeoDirection, MapBytes
Click here to find out why our data can differ from the WHOIS data.
Click here for a description of each of the above fields.
(20 items remaining) Downloading picture http://mt3.google.com/mt?n=404&v=ap.63&x=10238&y=6808&zoom=6...
Internet


IP Address Locator - Enter an IP address to find its location - Lookup Country Region City etc - Microsoft Internet Explorer
http://www.geobytes.com/IpLocator.htm?GetLocation
folder for missing messages? Send your provider to our CaseKeys page.
search engine for your name, your friend's name, or on keywords like TV, Radio, News, Weather, Movies, Coupons, Fuel.
The following results were generated using GeoSelect version II.
Search
IP Address to locate: 212.111.192.3 Submit
It is like having having all of your local services bookmarked, but easier to access.
Get yourself a $49 developers license (Click here)
Country Code UA
Country Ukraine
Region Code UAKC
Region Misto Kyyiv
City Code UAKCKIEV
City Kiev
CityId 4846
Certainty 89
Latitude 50.4330
Longitude 30.5170
Capital City Kiev
TimeZone +02:00
Nationality Singular Ukrainian
Population 48760474
Nationality Plural Ukrainians
Is proxy false
CIA Map Reference Commonwealth of Inde
Currency Hryvnia
MapBytes Remaining Free
Currency Code UAH
Distance to Nearby Cities
km, mi, City, Region, Country
0 0 Kiev, KC, UA
20 12 Brovary, KV, UA
Search WHOIS data at: RIPE ARIN APNIC LACNIC
Flag
Check out Geobytes other products including: GeoSelect, GeoNetMap, GeoReport, GeoPhrase, GeoLyzer, GeoRemote, GeoDirection, MapBytes
Click here to find out why our data can differ from the WHOIS data.
Click here for a description of each of the above fields.
Done
Internet
IP Address Locator - Enter an IP address to find its location - Lookup Country Region City etc - Microsoft Internet Explorer
http://www.geobytes.com/IpLocator.htm?GetLocation
folder for missing messages? Send your provider to our CaseKeys page.
search engine for your name, your friend's name, or on keywords like TV, Radio, News, Weather, Movies, Coupons, Fuel.
The following results were generated using GeoSelect version II.
Search
IP Address to locate: 212.112.64.1 Submit
It is like having having all of your local services bookmarked, but easier to access.
Get yourself a $49 developers license (Click here)
Country Code IT
Country Italy
Region Code ITPI
Region Piemonte
City Code ITPITORI
City Torino
CityId 11915
Certainty 90
Latitude 45.0500
Longitude 7.6670
Capital City Rome
TimeZone +01:00
Nationality Singular Italian
Population 57679825
Nationality Plural Italians
Is proxy false
CIA Map Reference Europe
Currency Euro
MapBytes Remaining Free
Currency Code EUR
Distance to Nearby Cities
km, mi, City, Region, Country
0 0 Turin, PI, IT
0 0 Torino, PI, IT
6 3 Moncalieri, PI, IT
14 8 Settimo Torinese, PI, IT
14 8 Alpignano, PI, IT
32 20 Pinerolo, PI, IT
44 27 Torre Pellice, PI, IT
46 28 Asti, PI, IT
49 30 Ivrea, PI, IT
49 30 Alba, PI, IT
53 33 Burolo, PI, IT
56 35 Sala Biellese, PI, IT
Search WHOIS data at: RIPE ARIN APNIC LACNIC
Flag
Check out Geobytes other products including: GeoSelect, GeoNetMap, GeoReport, GeoPhrase, GeoLyzer, GeoRemote, GeoDirection, MapBytes
Click here to find out why our data can differ from the WHOIS data.
Click here for a description of each of the above fields.
(20 items remaining) Downloading picture http://mt0.google.com/mt?n=404&v=ap.63&x=10688&y=736&zoom=6...
Internet


IP Address Locator - Enter an IP address to find its location - Lookup Country Region City etc - Microsoft Internet Explorer
http://www.geobytes.com/IpLocator.htm?GetLocation
IP Address to locate: 222.229.96.1
Submit
Country Code JP
Country Japan
Region Code JPTY
Region Tokyo
City Code JPTYTOKY
City Tokyo
CityId 4364
Certainty 90
Latitude 35.7000
Longitude 139.7670
Capital City Tokyo
TimeZone +09:00
Nationality Singular Japanese
Population 126771662
Nationality Plural Japanese
Is proxy false
CIA Map Reference Asia
Currency Yen
MapBytes Remaining Free
Currency Code JPY
Distance to Nearby Cities
km, mi, City, Region, Country
0 0 Tokyo, TY, JP
5 3 Wakamatsu, NG, JP
12 7 Nerima, TY, JP
14 8 Soka, SI, JP
14 8 Urayasu, CH, JP
19 11 Mitaka, TY, JP
20 12 Urawa, SI, JP
20 12 Funabashi, CH, JP
21 13 Nagareyama, CH, JP
23 14 Kamagaya, CH, JP
25 15 Narashino, CH, JP
28 17 Higashimurayama, TY, JP
29 18 Tokorozawa, SI, JP
30 18 Abiko, CH, JP
30 18 Yokohama, KN, JP
32 20 Tachikawa, TY, JP
Search WHOIS data at:
RIPE
ARIN
APNIC
LACNIC
Flag
Check out Geobytes other products including:
GeoSelect, GeoNetMap, GeoReport, GeoPhrase, GeoLyzer, GeoRemote, GeoDirection, MapBytes
Click here to find out why our data can differ from the WHOIS data.
Click here for a description of each of the above fields.
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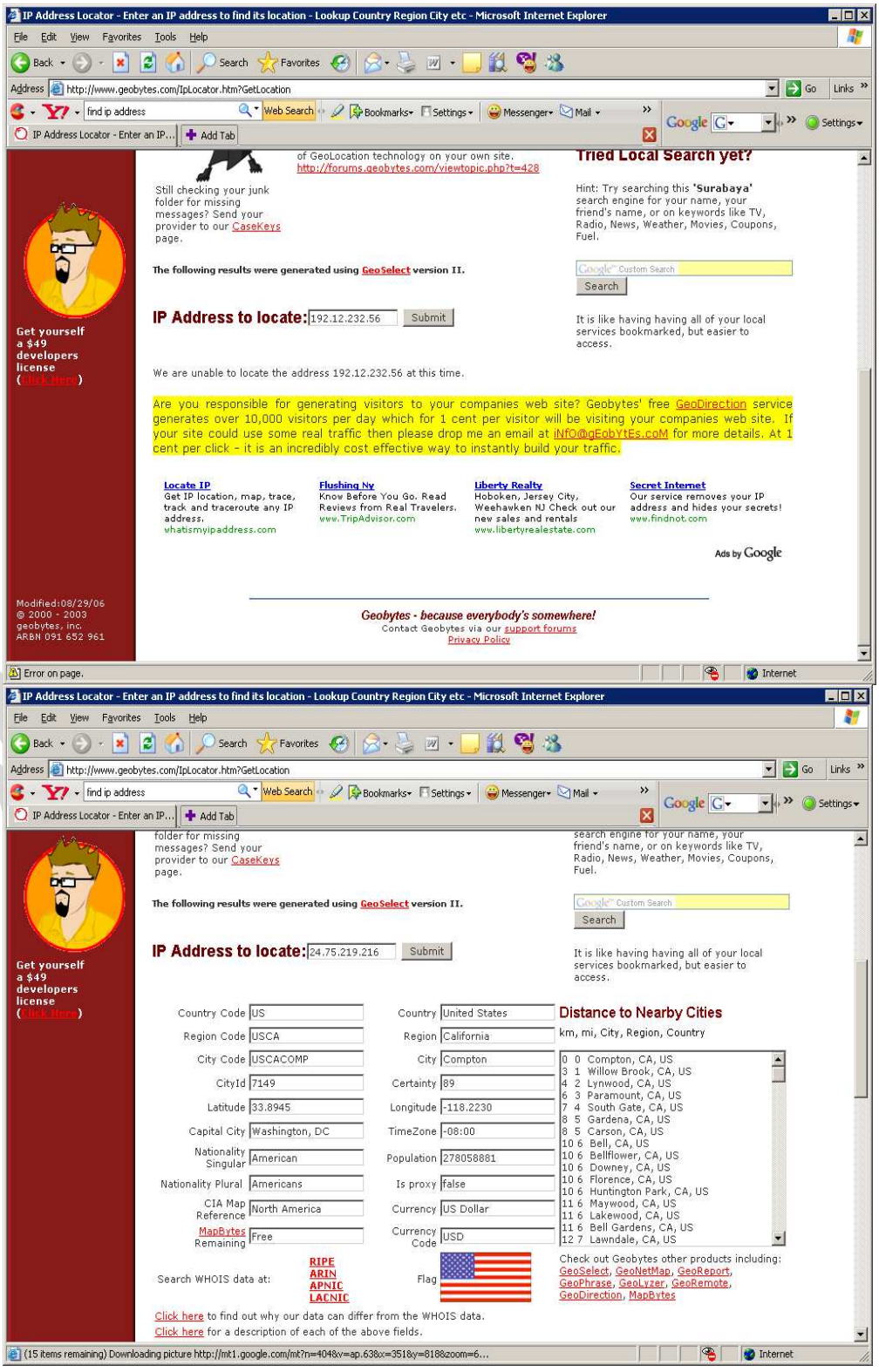
It is like having having all of your local services bookmarked, but easier to access.
Search
(19 items remaining) Downloading picture http://mt1.google.com/mt?n=404&v=ap.63&x=1819&y=806&zoom=6...
Internet


IP Address Locator - Enter an IP address to find its location - Lookup Country Region City etc - Microsoft Internet Explorer
http://www.geobytes.com/IpLocator.htm?GetLocation
of GeoLocation technology on your own site.
http://forums.geobytes.com/viewtopic.php?t=428
Tried Local Search yet?
Still checking your junk folder for missing messages? Send your provider to our CaseKeys page.
Hint: Try searching this 'Surabaya' search engine for your name, your friend's name, or on keywords like TV, Radio, News, Weather, Movies, Coupons, Fuel.
The following results were generated using GeoSelect version II.
Search
IP Address to locate: 192.12.232.56 Submit
It is like having having all of your local services bookmarked, but easier to access.
Get yourself a $49 developers license (Click Here)
We are unable to locate the address 192.12.232.56 at this time.
Are you responsible for generating visitors to your companies web site? Geobytes' free GeoDirection service generates over 10,000 visitors per day which for 1 cent per visitor will be visiting your companies web site. If your site could use some real traffic then please drop me an email at iNfO@gEobYtEs.coM for more details. At 1 cent per click - it is an incredibly cost effective way to instantly build your traffic.
Locate IP
Get IP location, map, trace, track and traceroute any IP address.
whatismyipaddress.com
Flushing Ny
Know Before You Go. Read Reviews from Real Travelers.
www.TripAdvisor.com
Liberty Realty
Hoboken, Jersey City, Weehawken NJ Check out our new sales and rentals
www.libertyrealestate.com
Secret Internet
Our service removes your IP address and hides your secrets!
www.findnot.com
Ads by Google
Modified:08/29/06
© 2000 - 2003 geobytes, inc.
ARBN 091 652 961
Geobytes - because everybody's somewhere!
Contact Geobytes via our support forums
Privacy Policy
Error on page.
Internet
IP Address Locator - Enter an IP address to find its location - Lookup Country Region City etc - Microsoft Internet Explorer
http://www.geobytes.com/IpLocator.htm?GetLocation
folder for missing messages? Send your provider to our CaseKeys page.
search engine for your name, your friend's name, or on keywords like TV, Radio, News, Weather, Movies, Coupons, Fuel.
The following results were generated using GeoSelect version II.
Search
IP Address to locate: 24.75.219.216 Submit
It is like having having all of your local services bookmarked, but easier to access.
Get yourself a $49 developers license (Click Here)
Country Code US
Region Code USCA
City Code USCACOMP
CityId 7149
Latitude 33.8945
Capital City Washington, DC
Nationality Singular American
Nationality Plural Americans
CIA Map Reference North America
MapBytes Remaining Free
Country United States
Region California
City Compton
Certainty 89
Longitude -118.2230
TimeZone -08:00
Population 278058881
Is proxy false
Currency US Dollar
Currency Code USD
Distance to Nearby Cities
km, mi, City, Region, Country
0 0 Compton, CA, US
3 1 Willow Brook, CA, US
4 2 Lynwood, CA, US
6 3 Paramount, CA, US
7 4 South Gate, CA, US
8 5 Gardena, CA, US
8 5 Carson, CA, US
10 6 Bell, CA, US
10 6 Bellflower, CA, US
10 6 Downey, CA, US
10 6 Florence, CA, US
10 6 Huntington Park, CA, US
11 6 Maywood, CA, US
11 6 Lakewood, CA, US
11 6 Bell Gardens, CA, US
12 7 Lawndale, CA, US
Search WHOIS data at: RIPE ARIN APNIC LACNIC
Flag
Check out Geobytes other products including: GeoSelect, GeoNetMap, GeoReport, GeoPhrase, GeoLyzer, GeoRemote, GeoDirection, MapBytes
Click here to find out why our data can differ from the WHOIS data.
Click here for a description of each of the above fields.
(15 items remaining) Downloading picture http://mt1.google.com/mt?n=404&v=ap.63&x=351&y=818&zoom=6...
Internet

Lampiran 4. Tes Intergrasi Maxmind's GeoIP Database dan Bind dengan Utilitas nslookup

Dengan menggunakan utilitas nslookup dapat dilakukan query terhadap DNS server untuk mendapat informasi IP Address dari sebuah *hostname*. Program ini sangat berguna untuk memeriksa benar tidak informasi yang terdapat pada geoDNS

5. **Pengujian dari komputer server Australia :**

```
[root@localhost ~]# nslookup
> set debug
> www.my-indonesia.info
Server:         203.89.65.70
Address:        203.89.65.70#53
------------
    QUESTIONS:
        www.my-indonesia.info, type = A, class = IN
    ANSWERS:
    ->  www.my-indonesia.info
        internet address = 203.89.95.140
    AUTHORITY RECORDS:
    ->  www.my-indonesia.info
        nameserver = gslb1.indo.com.
    ADDITIONAL RECORDS:
    ->  gslb1.indo.com
        internet address = 87.117.224.155
------------
Name:   www.my-indonesia.info
Address: 203.89.95.140
```

6. **Pengujian dari komputer server Singapore :**

```
[hagrid@139 ~]$ nslookup
> set debug
> www.my-indonesia.info
Server:         210.193.2.34
Address:        210.193.2.34#53
------------
    QUESTIONS:
        www.my-indonesia.info, type = A, class = IN
    ANSWERS:
    ->  www.my-indonesia.info
```

```
        internet address = 203.211.140.139
    AUTHORITY RECORDS:
    ->  info
        nameserver = F9.INFO.AFILIAS-NST.ORG.
    ->  info
        nameserver = A9.INFO.AFILIAS-NST.info.
    ->  info
        nameserver = B9.INFO.AFILIAS-NST.ORG.
    ->  info
        nameserver = C9.INFO.AFILIAS-NST.info.
    ->  info
        nameserver = D9.INFO.AFILIAS-NST.ORG.
    ->  info
        nameserver = E9.INFO.AFILIAS-NST.info.
    ADDITIONAL RECORDS:
------------
Non-authoritative answer:
Name:   www.my-indonesia.info
Address: 203.211.140.139
```

7. Pengujian dari komputer server Amerika :

```
[hagrid@www ~]$ nslookup
> set debug
> www.my-indonesia.info
Server:         64.38.5.242
Address:        64.38.5.242#53
------------
    QUESTIONS:
        www.my-indonesia.info, type = A, class = IN
    ANSWERS:
    ->  www.my-indonesia.info
        internet address = 64.38.56.178
    AUTHORITY RECORDS:
    ->  www.my-indonesia.info
        nameserver = gslb1.indo.com.
    ADDITIONAL RECORDS:
------------
Non-authoritative answer:
Name:   www.my-indonesia.info
```

```
Address: 64.38.56.178
```

8. **Dari komputer server English :**

```
[root@IS-2600 ~]# vi /etc/resolv.conf
[root@IS-2600 ~]# nslookup
> set debug
> www.my-indonesia.info
Server:         87.117.198.200
Address:        87.117.198.200#53
------------
    QUESTIONS:
        www.my-indonesia.info, type = A, class = IN
    ANSWERS:
    ->  www.my-indonesia.info
        internet address = 87.117.224.155
    AUTHORITY RECORDS:
    ADDITIONAL RECORDS:
------------
Non-authoritative answer:
Name:   www.my-indonesia.info
Address: 87.117.224.155
```

9. **Dari komputer server Indonesia :**

```
[johan@hogwarts ~]$ nslookup
> set debug
> www.my-indonesia.info
Server:         10.3.65.83
Address:        10.3.65.83#53
------------
    QUESTIONS:
    www.my-indonesia.info, type = A, class = IN
    ANSWERS:
    ->  www.my-indonesia.info
        internet address = 203.211.140.139
    AUTHORITY RECORDS:
    ->  www.my-indonesia.info
        nameserver = gslb1.indo.com.
    ADDITIONAL RECORDS:
```

```
    ->  gslb1.indo.com
        internet address = 87.117.224.155
------------
Non-authoritative answer:
Name:   www.my-indonesia.info
Address: 203.211.140.139
```

Lampiran 5. Tes Performance BIND dengan queryperf

Pada percobaan ini akan dilakukan pengujian terhadap performance DNS server setelah di integrasikan dengan Maxmind's GeoIP Database. Pengujian dilakukan menggunkan tools queryperf yang di set untuk melakukan pengujian 1 detik.

Pada tahap 1 option view pada masing – masing kelompok hanya terdiri dari 4 kode Negara:

- AU : country_AS; country_AU; country_CK; country_FJ;
- US : country_AG; country_AI; country_AN; country_AR;
- UK : country_DZ; country_AO; country_BJ; country_BW;
- SG : country_AF; country_AE; country_AM; country_AZ;
- Other.

```
[root@localhost queryperf]# ./queryperf -d input/sample.0 -l 1
DNS Query Performance Testing Tool
Version: $Id: queryperf.c,v 1.1.1.2.2.6 2004/06/21 00:45:24 marka
Exp $
[Status] Processing input data
[Status] Sending queries
[Status] Testing complete
Statistics:
  Parse input file:     multiple times
  Run time limit:       1 seconds
  Ran through file:     15470 times
  Queries sent:         15471 queries
  Queries completed:    15471 queries
  Queries lost:         0 queries
  Percentage completed: 100.00%
  Percentage lost:        0.00%
  Started at:           Fri Aug  3 13:27:52 2007
  Finished at:          Fri Aug  3 13:27:53 2007
  Ran for:              1.001206 seconds
  Queries per second:   15452.364448 qps
```

Pada tahap 2 option view pada masing – masing kelompok hanya terdiri dari 8 kode Negara :

- AU : country_AS; country_AU; country_CK; country_FJ;
  country_FM; country_GU; country_KI; country_MH;

- US : country_AG; country_AI; country_AN; country_AR; country_AW; country_BB; country_BM; country_BO;
- UK : country_DZ; country_AO; country_BJ; country_BW; country_BF; country_BI; country_CM; country_CV;
- SG : country_AF; country_AE; country_AM; country_AZ; country_BD; country_BH; country_BN; country_BT;
- Other.

```
[root@localhost queryperf]# ./queryperf -d input/sample.0 -l 1
DNS Query Performance Testing Tool
Version: $Id: queryperf.c,v 1.1.1.2.2.6 2004/06/21 00:45:24 marka
Exp $
[Status] Processing input data
[Status] Sending queries
[Status] Testing complete
Statistics:
  Parse input file:     multiple times
  Run time limit:       1 seconds
  Ran through file:     12393 times
  Queries sent:         12393 queries
  Queries completed:    12393 queries
  Queries lost:         0 queries
  Percentage completed: 100.00%
  Percentage lost:        0.00%
  Started at:           Fri Aug  3 13:29:25 2007
  Finished at:          Fri Aug  3 13:29:26 2007
  Ran for:              1.001478 seconds
  Queries per second:   12374.710178 qps
```

Pada tahap 3 option view pada masing – masing kelompok hanya terdiri dari 12 kode Negara :

- AU : country_AS; country_AU; country_CK; country_FJ; country_FM; country_GU; country_KI; country_MH; country_MP; country_NC; country_NF; country_NR;
- US : country_AG; country_AI; country_AN; country_AR; country_AW; country_BB; country_BM; country_BO; country_BR; country_BS; country_BZ; country_CA;
- UK : country_DZ; country_AO; country_BJ; country_BW;

country_BF; country_BI; country_CM; country_CV;
country_CF; country_TD; country_KM; country_CG;

- SG : country_AF; country_AE; country_AM; country_AZ;
  country_BD; country_BH; country_BN; country_BT;
  country_CN; country_GE; country_HK; country_ID;
- Other.

```
[root@localhost queryperf]# ./queryperf -d input/sample.0 -l 1
DNS Query Performance Testing Tool
Version: $Id: queryperf.c,v 1.1.1.2.2.6 2004/06/21 00:45:24 marka
Exp $
[Status] Processing input data
[Status] Sending queries
[Status] Testing complete
Statistics:
  Parse input file:     multiple times
  Run time limit:       1 seconds
  Ran through file:     10318 times
  Queries sent:         10319 queries
  Queries completed:    10319 queries
  Queries lost:         0 queries
  Percentage completed: 100.00%
  Percentage lost:        0.00%
  Started at:           Fri Aug  3 13:31:36 2007
  Finished at:          Fri Aug  3 13:31:37 2007
  Ran for:              1.001862 seconds
  Queries per second:   10299.821732 qps
```

Pada tahap 4 option view pada masing – masing kelompok hanya terdiri dari 16 kode Negara :

- AU : country_AS; country_AU; country_CK; country_FJ;
  country_FM; country_GU; country_KI; country_MH;
  country_MP; country_NC; country_NF; country_NR;
  country_NU; country_NZ; country_PF; country_PG;
- US : country_AG; country_AI; country_AN; country_AR;
  country_AW; country_BB; country_BM; country_BO;
  country_BR; country_BS; country_BZ; country_CA;
  country_CL; country_CO; country_CR; country_CU;
- UK : country_DZ; country_AO; country_BJ; country_BW;

country_BF; country_BI; country_CM; country_CV;
country_CF; country_TD; country_KM; country_CG;
country_CI; country_DJ; country_EG; country_GQ;

- SG : country_AF; country_AE; country_AM; country_AZ;
country_BD; country_BH; country_BN; country_BT;
country_CN; country_GE; country_HK; country_ID;
country_IL; country_IN; country_IO; country_IQ;
country_IR; country_JO; country_JP; country_KG;
- Other.

```
[root@localhost queryperf]# ./queryperf -d input/sample.0 -l 1
DNS Query Performance Testing Tool
Version: $Id: queryperf.c,v 1.1.1.2.2.6 2004/06/21 00:45:24 marka
Exp $
[Status] Processing input data
[Status] Sending queries
[Status] Testing complete
Statistics:
  Parse input file:     multiple times
  Run time limit:       1 seconds
  Ran through file:     8899 times
  Queries sent:         8900 queries
  Queries completed:    8900 queries
  Queries lost:         0 queries
  Percentage completed: 100.00%
  Percentage lost:        0.00%
  Started at:           Fri Aug  3 13:33:14 2007
  Finished at:          Fri Aug  3 13:33:15 2007
  Ran for:              1.002099 seconds
  Queries per second:   8881.358029 qps
```

Pada tahap 5 option view pada masing – masing kelompok hanya terdiri dari 20 kode Negara :

- AU : country_AS; country_AU; country_CK; country_FJ;
country_FM; country_GU; country_KI; country_MH;
country_MP; country_NC; country_NF; country_NR;
country_NU; country_NZ; country_PF; country_PG;
country_PW; country_SB; country_TK; country_TO;

- US : country_AG; country_AI; country_AN; country_AR; country_AW; country_BB; country_BM; country_BO; country_BR; country_BS; country_BZ; country_CA; country_CL; country_CO; country_CR; country_CU; country_DM; country_DO; country_EC; country_FK;
- UK : country_DZ; country_AO; country_BJ; country_BW; country_BF; country_BI; country_CM; country_CV; country_CF; country_TD; country_KM; country_CG; country_CI; country_DJ; country_EG; country_GQ; country_ER; country_ET; country_GA; country_GM;
- SG : country_AF; country_AE; country_AM; country_AZ; country_BD; country_BH; country_BN; country_BT; country_CN; country_GE; country_HK; country_ID; country_IL; country_IN; country_IO; country_IQ; country_IR; country_JO; country_JP; country_KG;
- Other.

```
[root@localhost queryperf]# ./queryperf -d input/sample.0 -l 1
DNS Query Performance Testing Tool
Version: $Id: queryperf.c,v 1.1.1.2.2.6 2004/06/21 00:45:24 marka
Exp $
[Status] Processing input data
[Status] Sending queries
[Status] Testing complete
Statistics:
  Parse input file:     multiple times
  Run time limit:       1 seconds
  Ran through file:     8014 times
  Queries sent:         8015 queries
  Queries completed:    8015 queries
  Queries lost:         0 queries
  Percentage completed: 100.00%
  Percentage lost:        0.00%
  Started at:           Fri Aug  3 13:34:49 2007
  Finished at:          Fri Aug  3 13:34:50 2007
  Ran for:              1.002340 seconds
  Queries per second:   7996.288684 qps
```

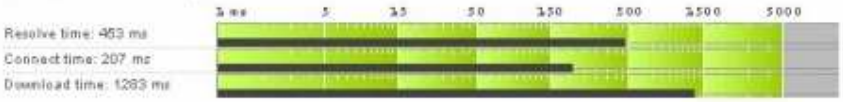
Lampiran 6 : Sekenario 1→ Download Time (Non GeoDNS) pengujian tahap 1

Pengujian dilakukan dengan menggunakan tools check host yang tersedia online dialamat http://www.watchmouse.com/en/index.php. Lokasi host yang digunakan untuk pengujian download terhadap halaman index website www.my-indonesia.info tersebar di beberapa negara seperti gambar berikut :

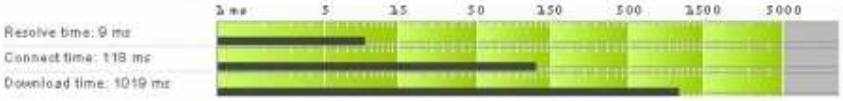
Dalam percobaan ini dibagi menjadi dua skenario, hal ini bertujuan untuk mengetahui pengaruh seting TTL terhadap cache DNS, resolve time dan download time.

Sekenario 1→ Download Time (Non GeoDNS) pengujian tahap 1

Location Cagliari, Italy: OK
Download size: 16718 bytes

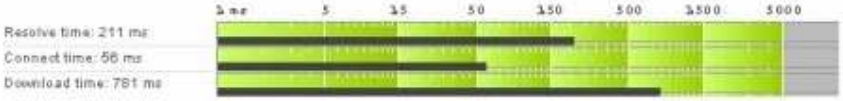


Location Amsterdam1, Netherlands: OK
Download size: 16716 bytes



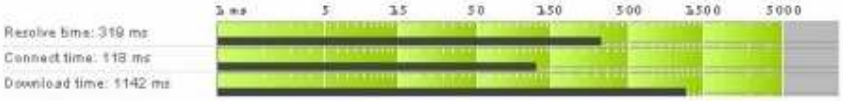
Location Shanghai, China: OK
Download size: 16719 bytes

Location Austin, U.S.A.: OK
Download size: 16716 bytes

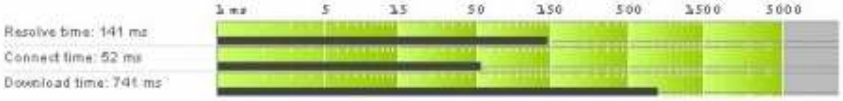


Location New York, U.S.A.: OK
Download size: 16716 bytes

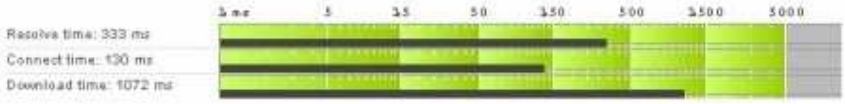
Location Paris, France: OK
Download size: 16713 bytes



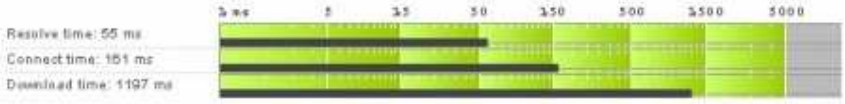
Location Florida, U.S.A.: OK
Download size: 16714 bytes



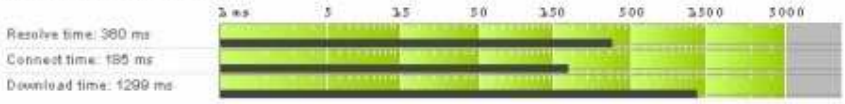
Location Munchen, Germany: OK
Download size: 16718 bytes



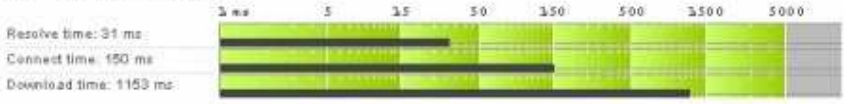
Location Kraków, Poland: OK
Download size: 16717 bytes



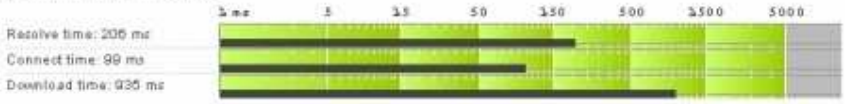
Location Porto Alegre, Brazil: OK
Download size: 16717 bytes



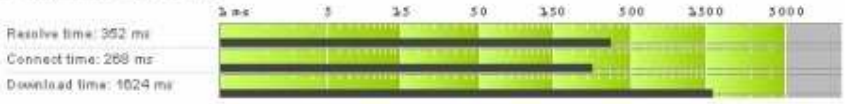
Location Stockholm, Sweden: OK
Download size: 16721 bytes



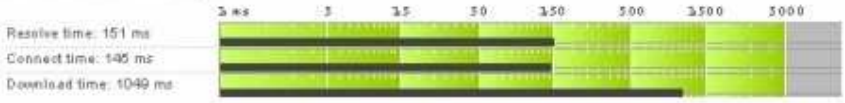
Location Vancouver, Canada: OK
Download size: 16719 bytes



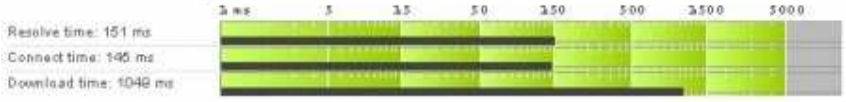
Location Singapore, Singapore: OK
Download size: 16721 bytes



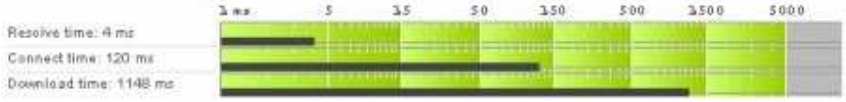
Location Santa Clara, U.S.A.: OK
Download size: 16721 bytes



Location Santa Clara, U.S.A.: OK
Download size: 16721 bytes



Location London, United Kingdom: OK
Download size: 16716 bytes

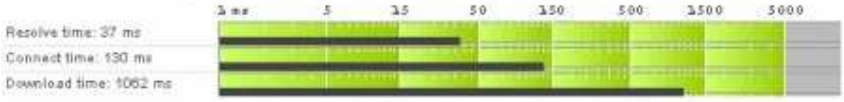


Location Amsterdam, Netherlands: OK
Download size: 16721 bytes

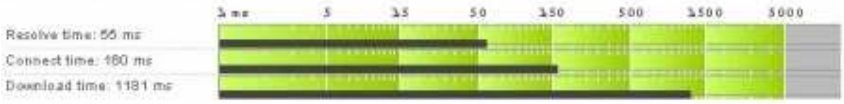
Location Copenhagen, Denmark: OK
Download size: 16713 bytes

Lampiran 6: Sekenario 1 → Download Time Non GeoDNS pengujian tahap 2

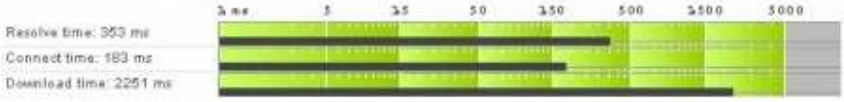
Location Munchen, Germany: OK
Download size: 16717 bytes



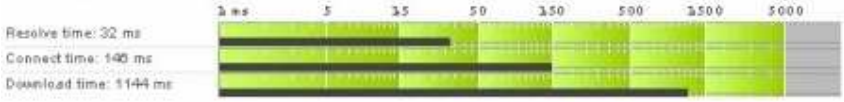
Location Kraków, Poland: OK
Download size: 16717 bytes



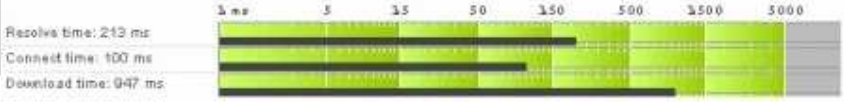
Location Porto Alegre, Brazil: OK
Download size: 16717 bytes



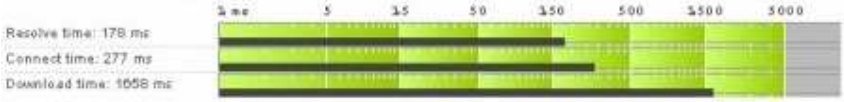
Location Stockholm, Sweden: OK
Download size: 16720 bytes



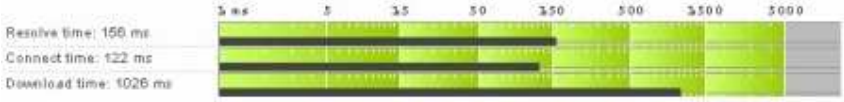
Location Vancouver, Canada: OK
Download size: 16720 bytes



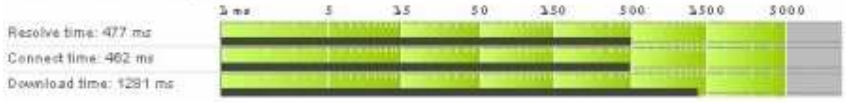
Location Singapore, Singapore: OK
Download size: 16715 bytes



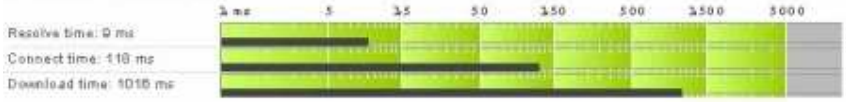
Location Santa Clara, U.S.A.: OK
Download size: 16721 bytes



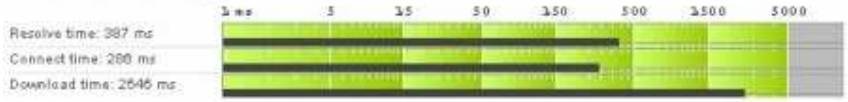
Location Cagliari, Italy: OK
Download size: 16719 bytes



Location Amsterdam1, Netherlands: OK
Download size: 16721 bytes

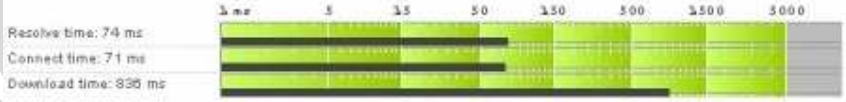


Location Shanghai, China: OK
Download size: 16719 bytes

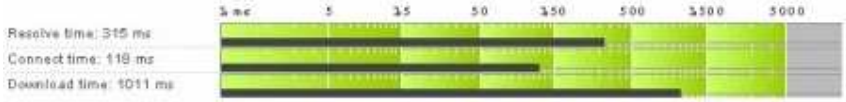


Location Austin, U.S.A.: OK
Download size: 16721 bytes

Location New York, U.S.A.: OK
Download size: 16717 bytes

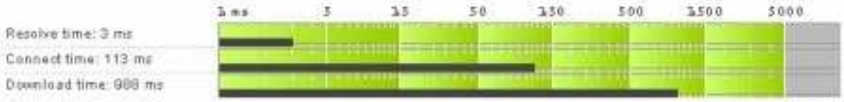


Location Paris, France: OK
Download size: 16716 bytes

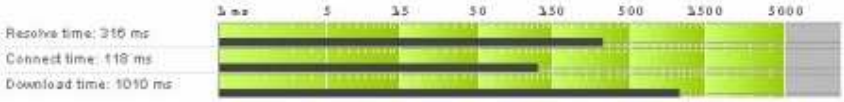


Location Florida, U.S.A.: OK
Download size: 16716 bytes

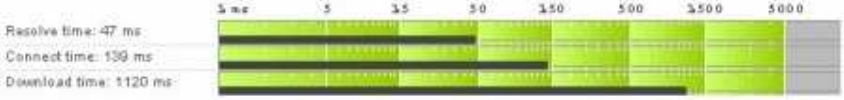
Location London, United Kingdom: OK
Download size: 16721 bytes



Location Amsterdam, Netherlands: OK
Download size: 16719 bytes

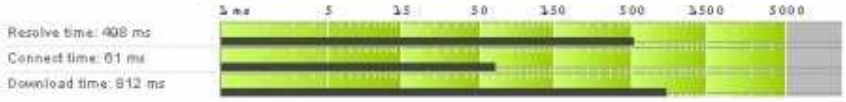


Location Copenhagen, Denmark: OK
Download size: 16713 bytes

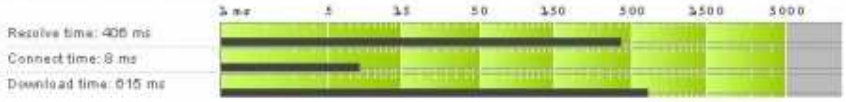


Lampiran 6 : Sekenario 1→ Download Time (GeoDNS) pengujian tahap 1

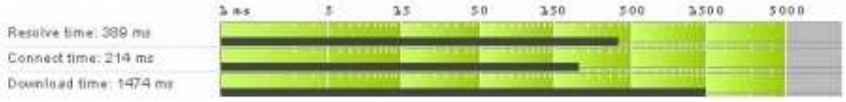
Location Cagliari, Italy: OK
Download size: 16689 bytes



Location Amsterdam1, Netherlands: OK
Download size: 16688 bytes

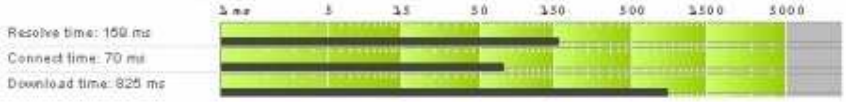


Location Shanghai, China: OK
Download size: 16680 bytes

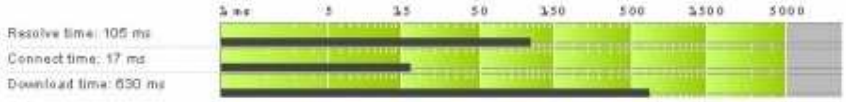


Location Austin, U.S.A.: OK
Download size: 16717 bytes

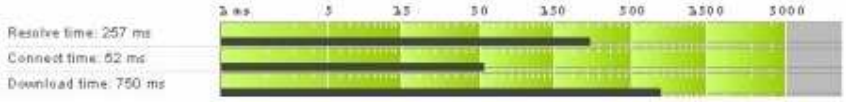
Location New York, U.S.A.: OK
Download size: 16716 bytes



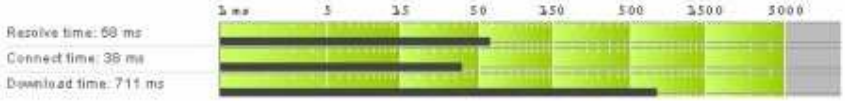
Location Paris, France: OK
Download size: 16684 bytes



Location Florida, U.S.A.: OK
Download size: 16721 bytes

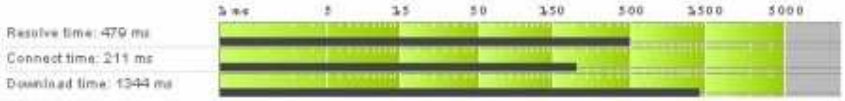


Location Munchen, Germany: OK
Download size: 16684 bytes

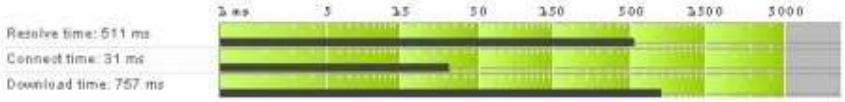


Location Kraków, Poland: OK
Download size: 16689 bytes

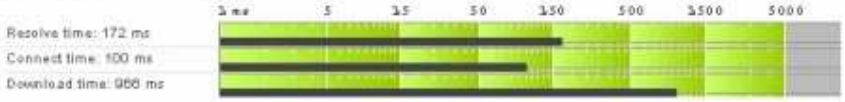
Location Porto Alegre, Brazil: OK
Download size: 16722 bytes



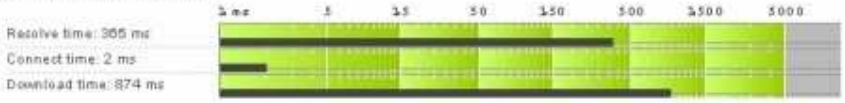
Location Stockholm, Sweden: OK
Download size: 16696 bytes



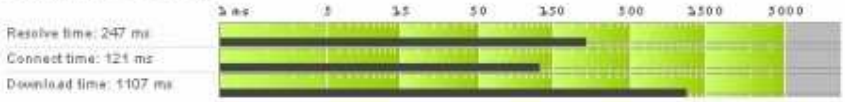
Location Vancouver, Canada: OK
Download size: 16719 bytes



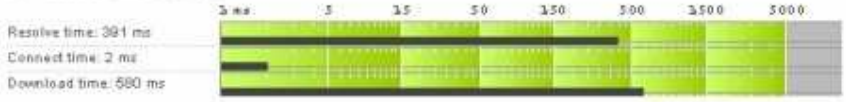
Location Singapore, Singapore: OK
Download size: 16680 bytes



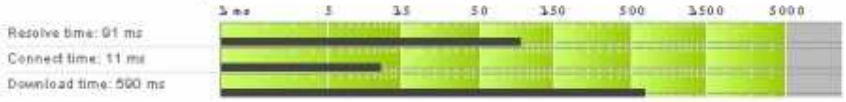
Location Santa Clara, U.S.A.: OK
Download size: 16719 bytes



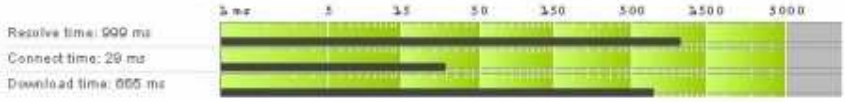
Location London, United Kingdom: OK
Download size: 16690 bytes



Location Amsterdam, Netherlands: OK
Download size: 16691 bytes

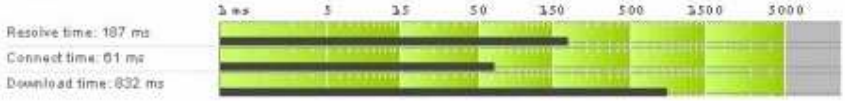


Location Copenhagen, Denmark: OK
Download size: 16691 bytes

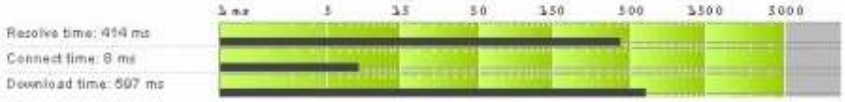


Lampiran 6 : Sekenario 1→ Download Time (GeoDNS) pengujian tahap 2

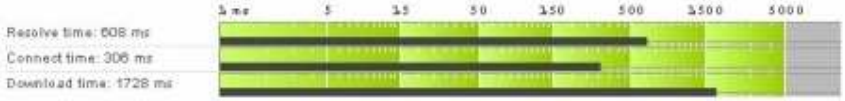
Location Cagliari, Italy: OK
Download size: 16695 bytes



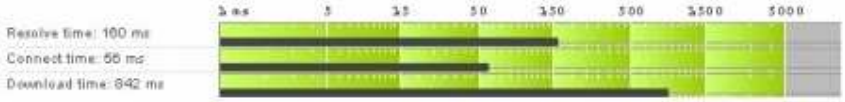
Location Amsterdam1, Netherlands: OK
Download size: 16696 bytes



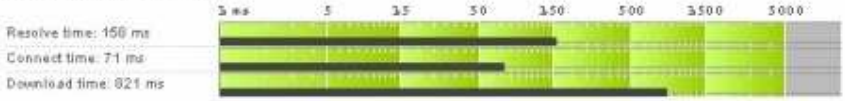
Location Shanghai, China: OK
Download size: 16678 bytes



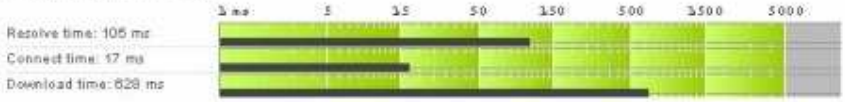
Location Austin, U.S.A.: OK
Download size: 16723 bytes



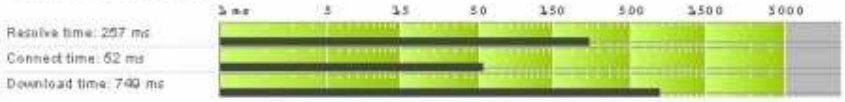
Location New York, U.S.A.: OK
Download size: 16723 bytes



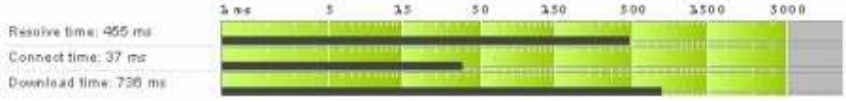
Location Paris, France: OK
Download size: 16693 bytes



Location Florida, U.S.A.: OK
Download size: 16722 bytes

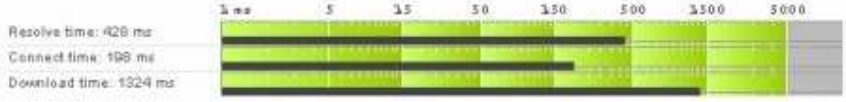


Location Munchen, Germany: OK
Download size: 16688 bytes

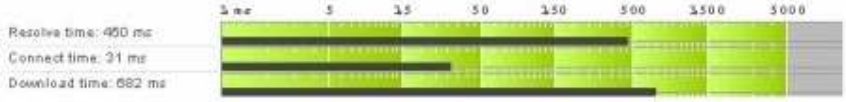


Location Kraków, Poland: OK
Download size: 16688 bytes

Location Porto Alegre, Brazil: OK
Download size: 16722 bytes

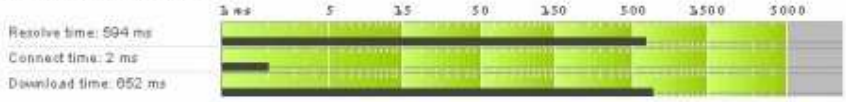


Location Stockholm, Sweden: OK
Download size: 16682 bytes

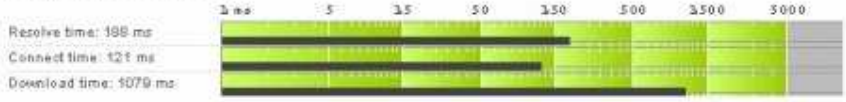


Location Vancouver, Canada: OK
Download size: 16720 bytes

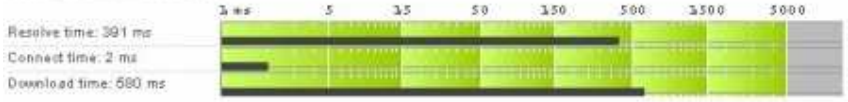
Location Singapore, Singapore: OK
Download size: 16674 bytes



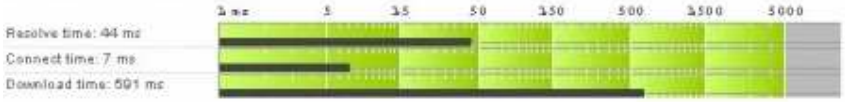
Location Santa Clara, U.S.A.: OK
Download size: 16717 bytes



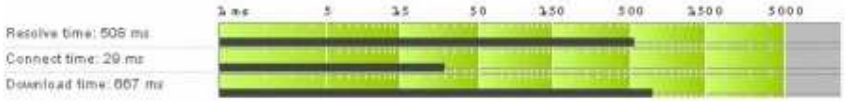
Location London, United Kingdom: OK
Download size: 16690 bytes



Location Amsterdam, Netherlands: OK
Download size: 16700 bytes

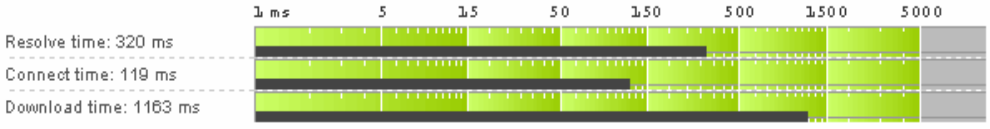


Location Copenhagen, Denmark: OK
Download size: 16700 bytes

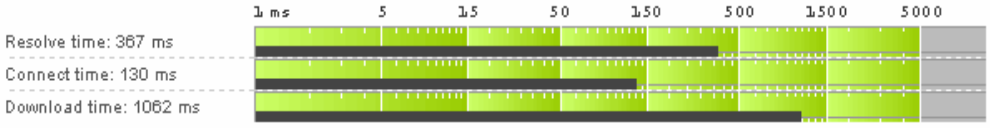


Lampiran 7 : Sekenario 1→ Download Time NonGeoDNS pengujian tahap 1

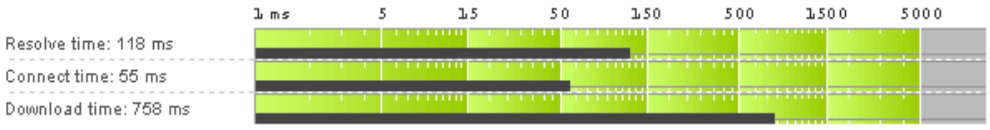
Location Amsterdam3, Netherlands: OK
Download size: 16720 bytes



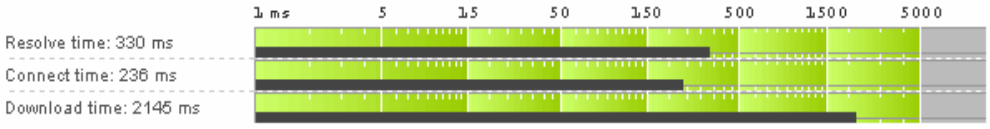
Location Cologne, Germany: OK
Download size: 16721 bytes



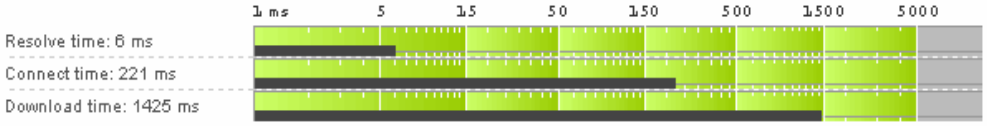
Location Austin, U.S.A.: OK
Download size: 16721 bytes



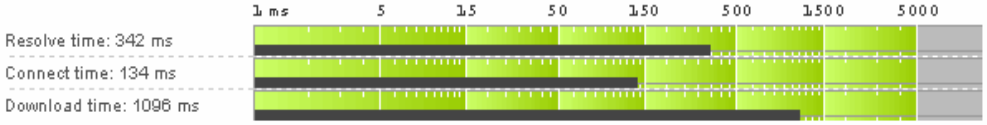
Location Melbourne, Australia: OK
Download size: 16720 bytes



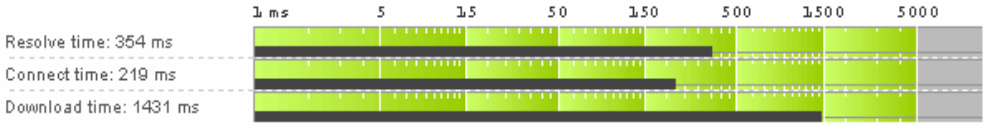
Location Sydney, Australia: OK
Download size: 16719 bytes



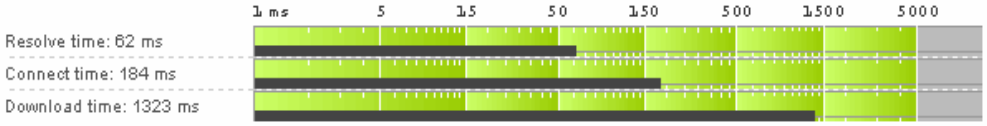
Location Madrid, Spain: OK
Download size: 16712 bytes



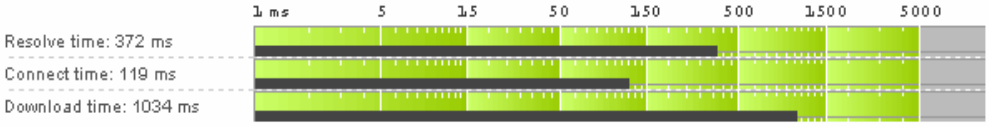
Location Hong Kong, China: OK
Download size: 16713 bytes



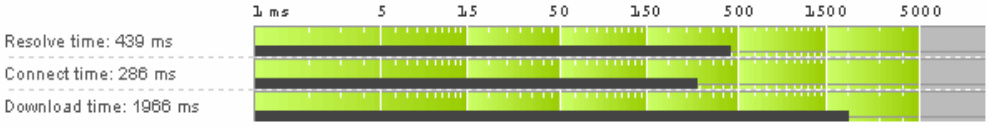
Location Cagliari, Italy: OK
Download size: 16718 bytes



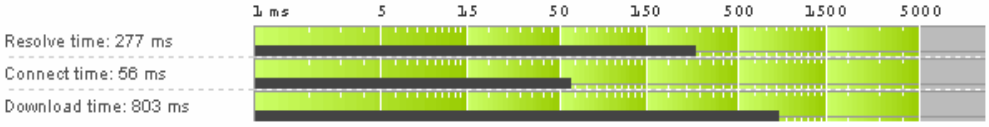
Location Amsterdam1, Netherlands: OK
Download size: 16713 bytes



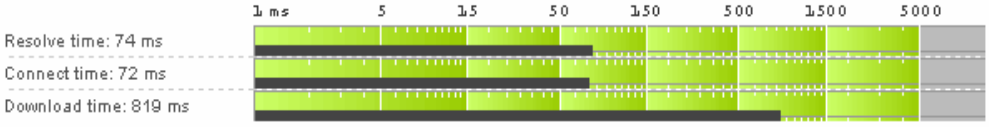
Location Shanghai, China: OK
Download size: 16718 bytes



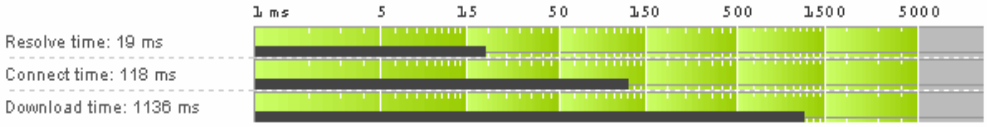
Location Austin, U.S.A.: OK
Download size: 16720 bytes



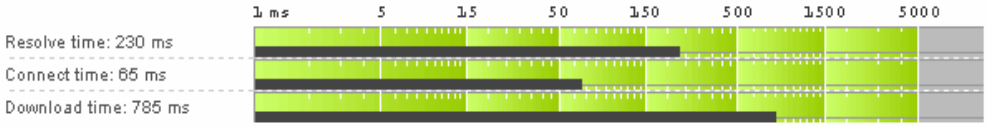
Location New York, U.S.A.: OK
Download size: 16715 bytes



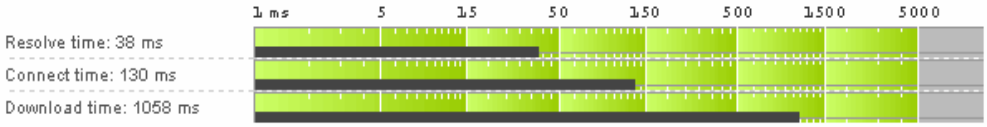
Location Paris, France: OK
Download size: 16715 bytes



Location Florida, U.S.A.: OK
Download size: 16716 bytes



Location Munchen, Germany: OK
Download size: 16717 bytes



Location Kraków, Poland: OK
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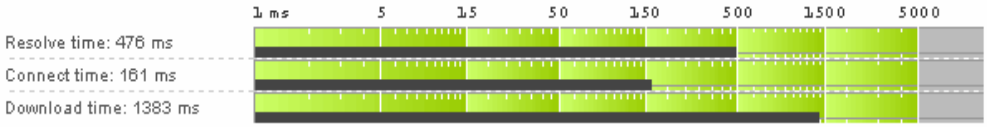
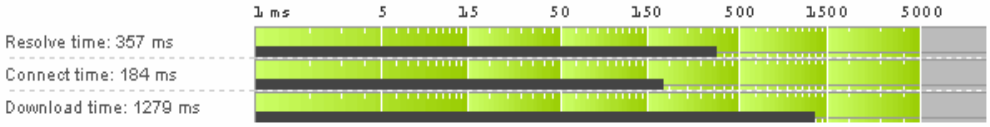
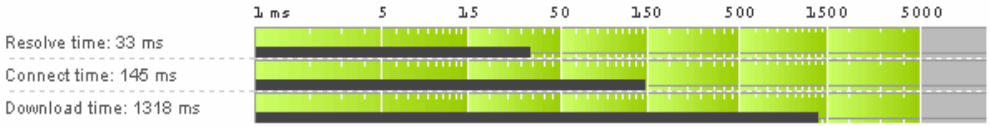


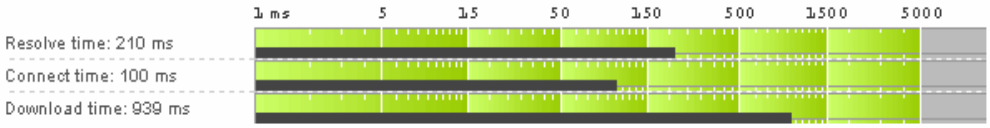
Location Porto Alegre, Brazil: OK
Download size: 16718 bytes



Location Stockholm, Sweden: OK
Download size: 16716 bytes



Location Vancouver, Canada: OK
Download size: 16718 bytes



Location Singapore, Singapore: OK
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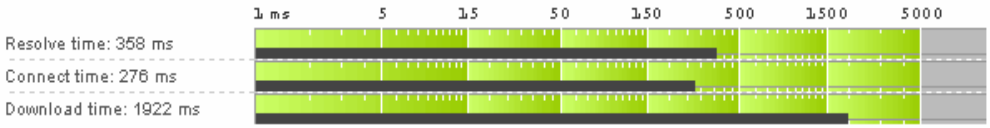
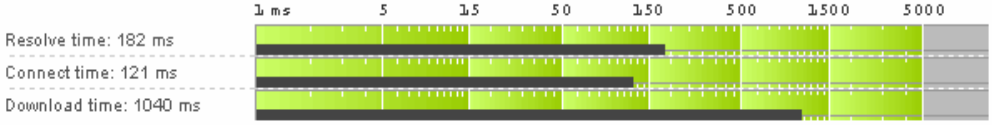
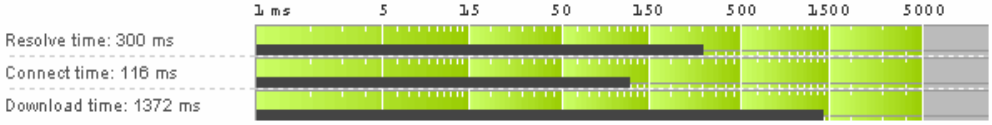


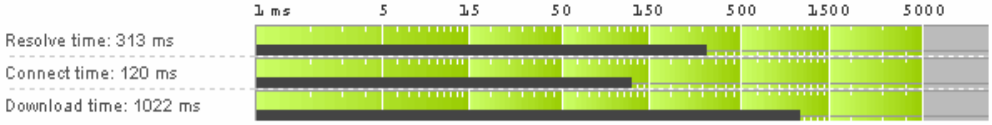
Location Santa Clara, U.S.A.: OK
Download size: 16716 bytes



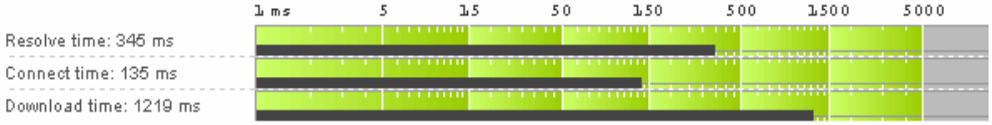
Location London, United Kingdom: OK
Download size: 16716 bytes



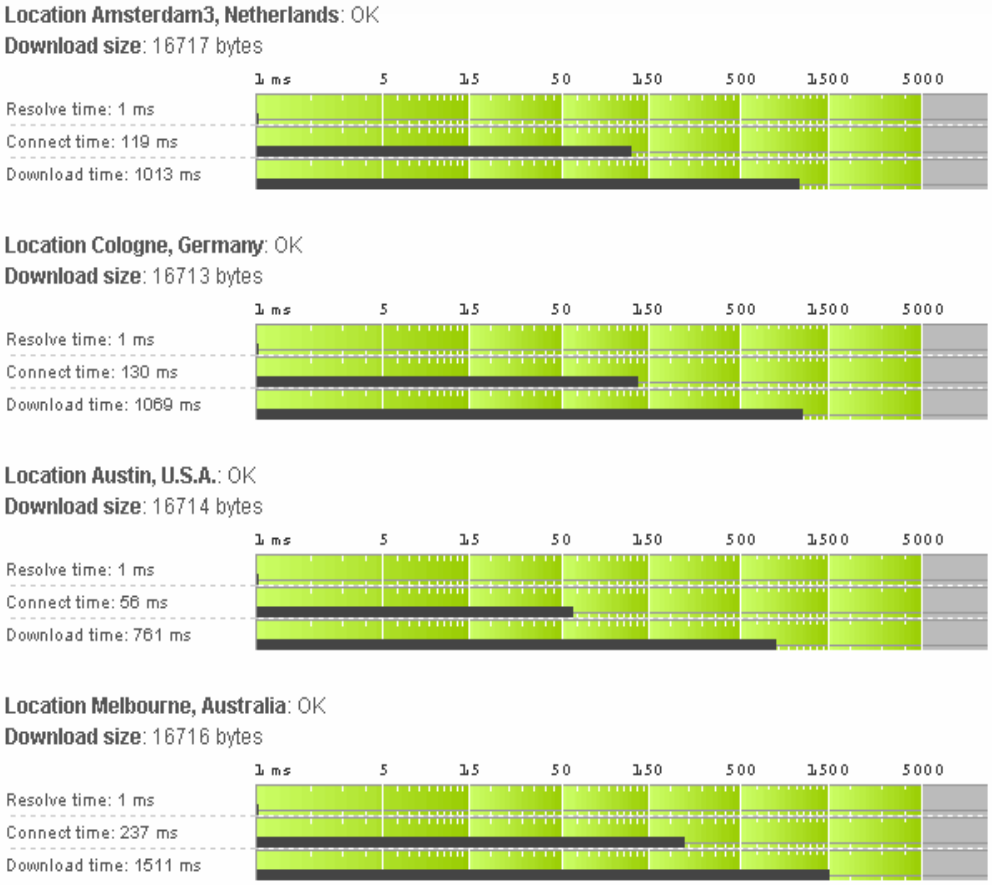
Location Amsterdam, Netherlands: OK
Download size: 16721 bytes



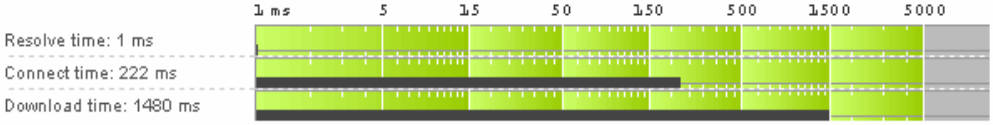
Location Copenhagen, Denmark: OK
Download size: 16715 bytes



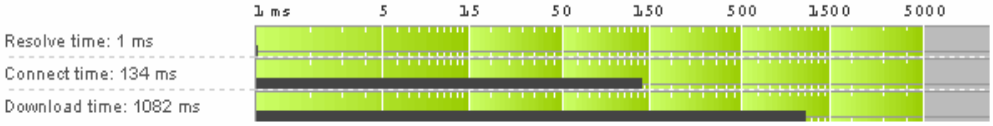
Lampiran 7 : Sekenario 1→ Download Time Non GeoDNS pengujian tahap 2



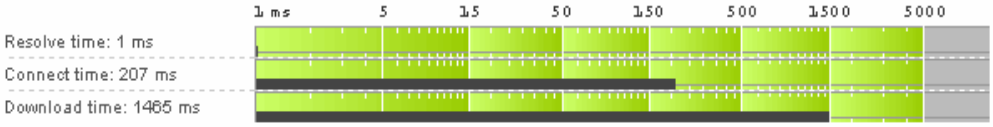
Location Sydney, Australia: OK
Download size: 16721 bytes



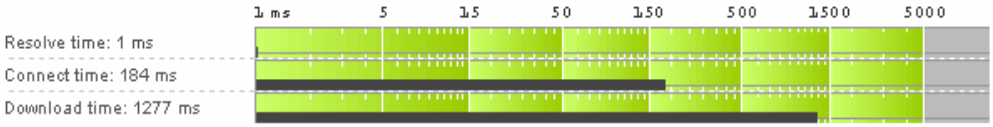
Location Madrid, Spain: OK
Download size: 16720 bytes



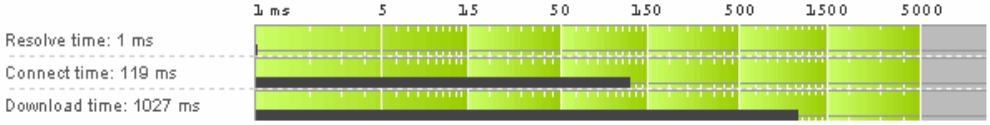
Location Hong Kong, China: OK
Download size: 16721 bytes



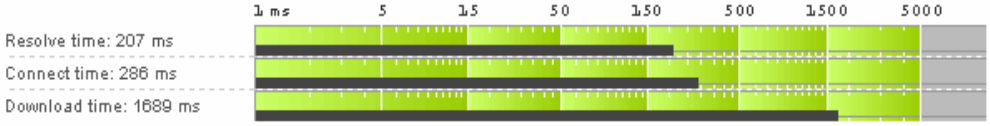
Location Cagliari, Italy: OK
Download size: 16720 bytes



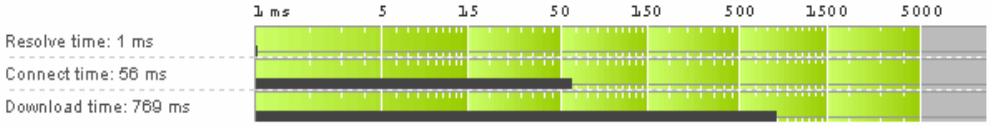
Location Amsterdam1, Netherlands: OK
Download size: 16717 bytes



Location Shanghai, China: OK
Download size: 16721 bytes



Location Austin, U.S.A.: OK
Download size: 16727 bytes



Location New York, U.S.A.: OK
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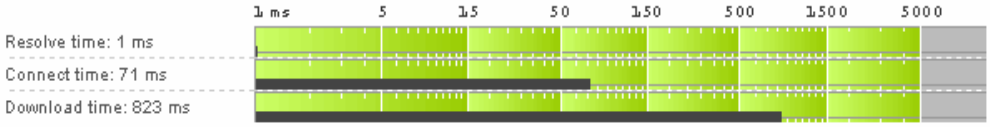

Location Paris, France: OK
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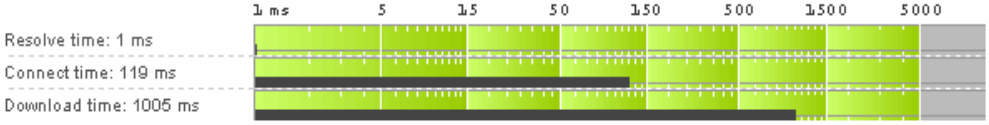

Location Florida, U.S.A.: OK
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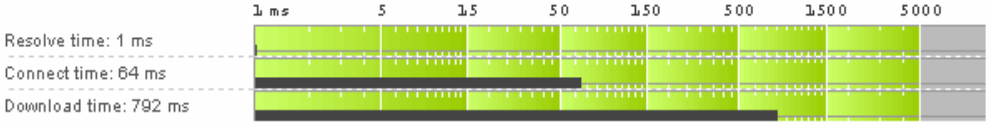

Location Munchen, Germany: OK
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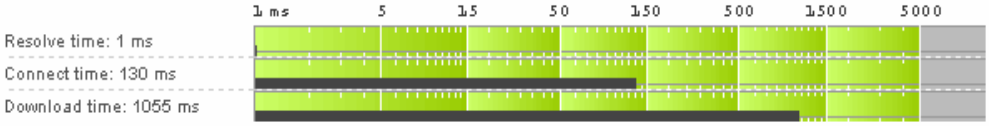
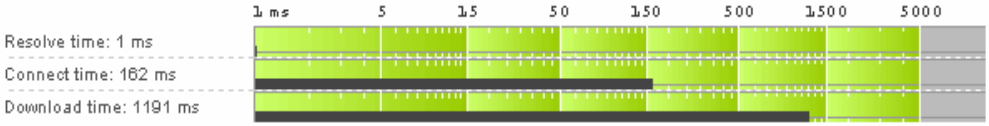
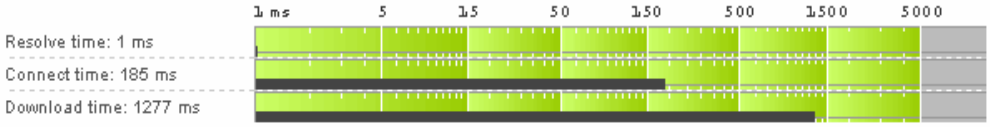


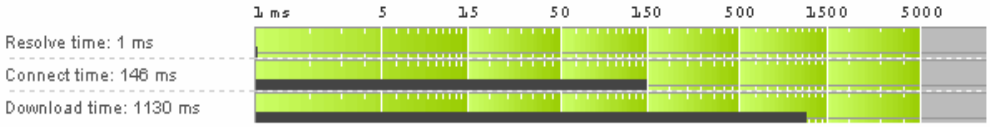
Location Kraków, Poland: OK
Download size: 16727 bytes



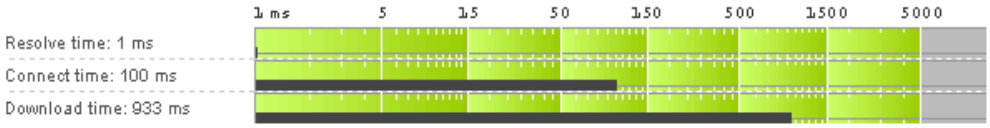
Location Porto Alegre, Brazil: OK
Download size: 16730 bytes



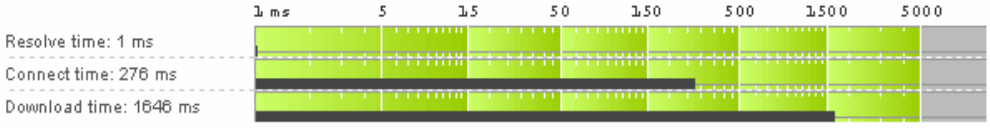
Location Stockholm, Sweden: OK
Download size: 16720 bytes



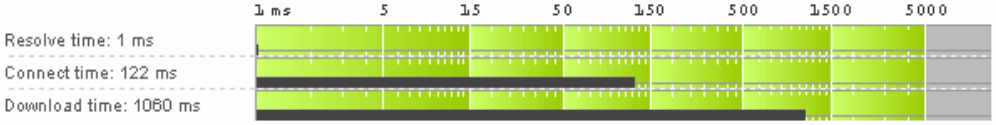
Location Vancouver, Canada: OK
Download size: 16721 bytes



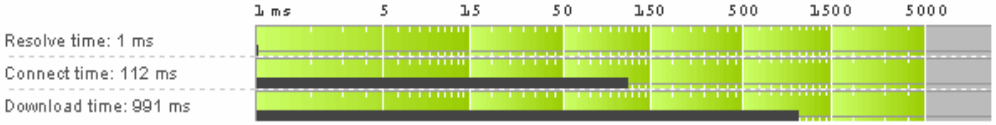
Location Singapore, Singapore: OK
Download size: 16721 bytes



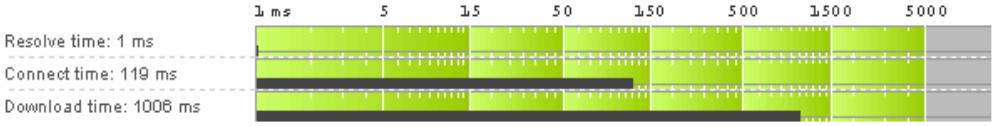
Location Santa Clara, U.S.A.: OK
Download size: 16720 bytes



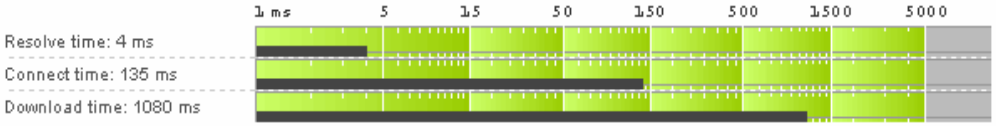
Location London, United Kingdom: OK
Download size: 16712 bytes



Location Amsterdam, Netherlands: OK
Download size: 16713 bytes



Location Copenhagen, Denmark: OK
Download size: 16716 bytes



Lampiran 7 : Sekenario 1→ Download Time (GeoDNS) pengujian tahap 1

Location Amsterdam3, Netherlands: OK
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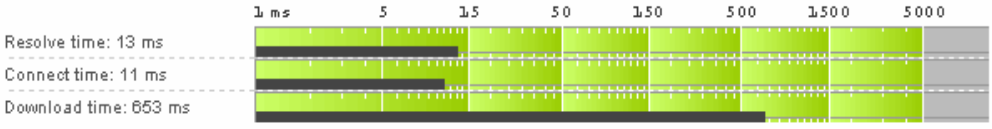

Location Cologne, Germany: OK
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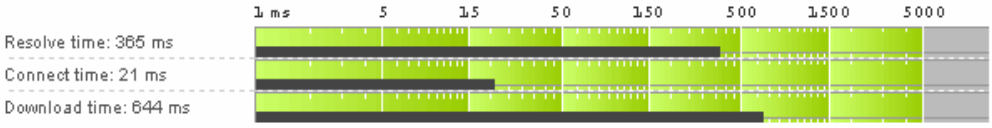
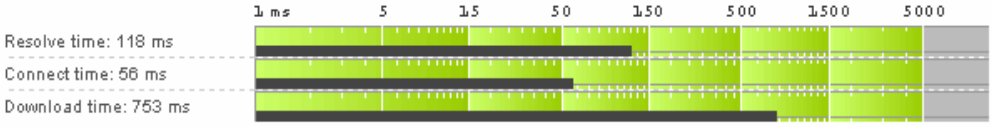
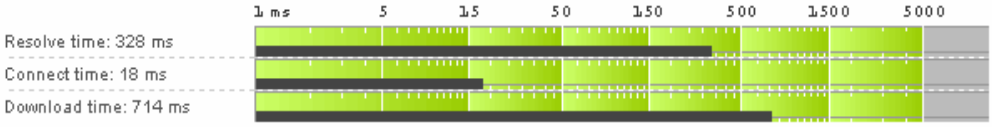


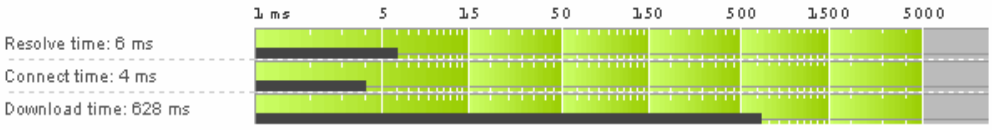
Location Austin, U.S.A.: OK
Download size: 16721 bytes



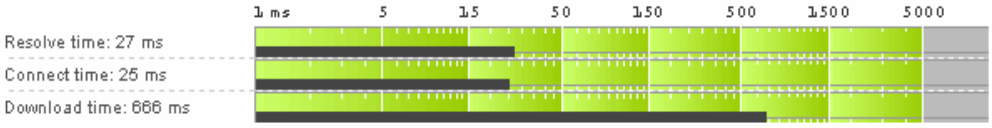
Location Melbourne, Australia: OK
Download size: 16687 bytes



Location Sydney, Australia: OK
Download size: 16684 bytes



Location Madrid, Spain: OK
Download size: 16701 bytes



Location Hong Kong, China: OK
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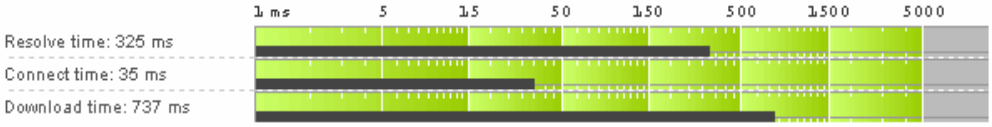
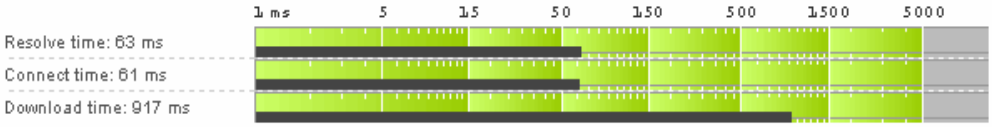
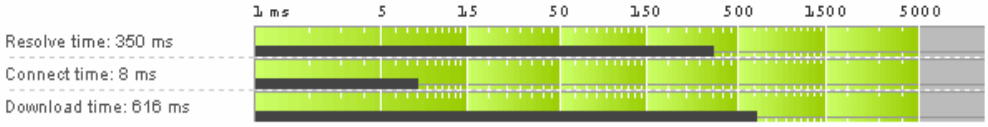


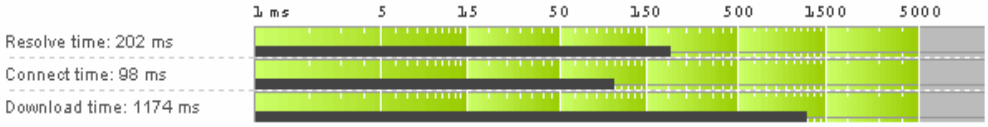
Location Cagliari, Italy: OK
Download size: 16700 bytes



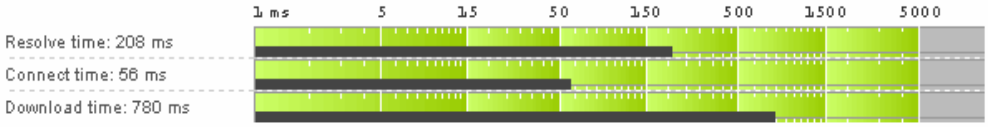
Location Amsterdam1, Netherlands: OK
Download size: 16687 bytes



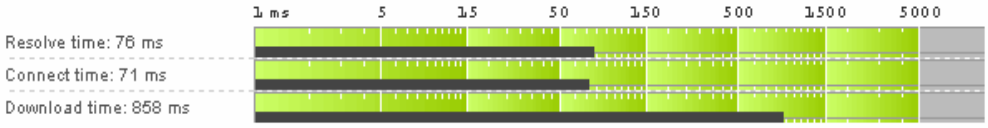
Location Shanghai, China: OK
Download size: 16669 bytes



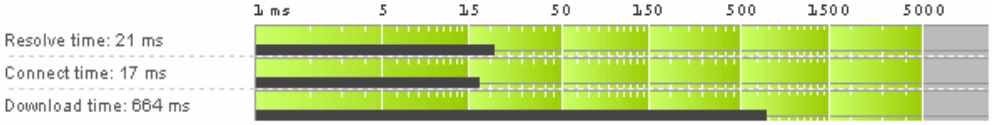
Location Austin, U.S.A.: OK
Download size: 16719 bytes



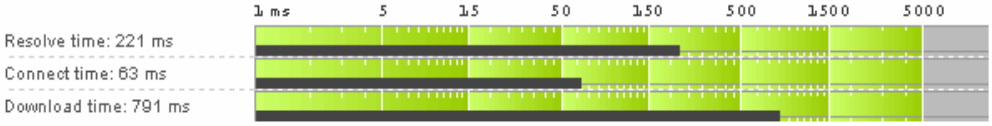
Location New York, U.S.A.: OK
Download size: 16719 bytes



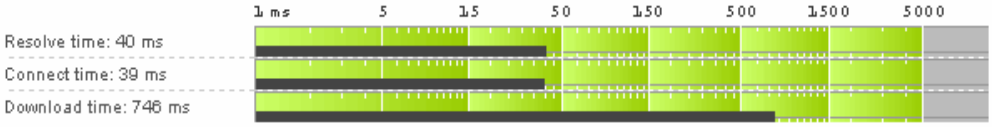
Location Paris, France: OK
Download size: 16692 bytes



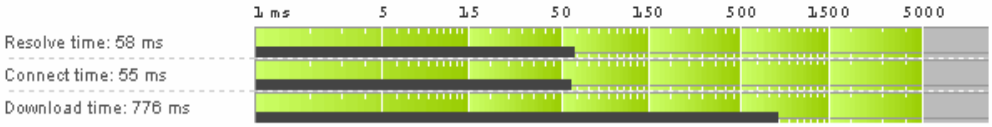
Location Florida, U.S.A.: OK
Download size: 16714 bytes



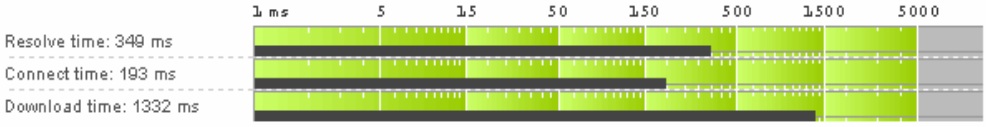
Location Munchen, Germany: OK
Download size: 16691 bytes



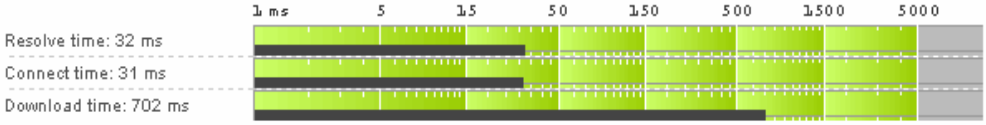
Location Kraków, Poland: OK
Download size: 16692 bytes



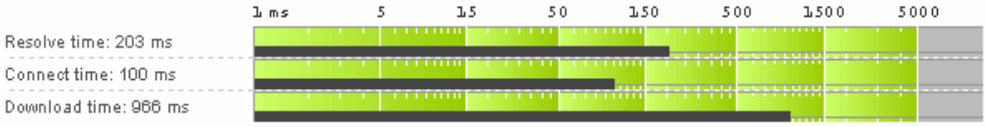
Location Porto Alegre, Brazil: OK
Download size: 16719 bytes



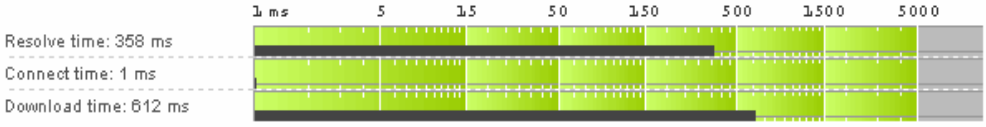
Location Stockholm, Sweden: OK
Download size: 16692 bytes



Location Vancouver, Canada: OK
Download size: 16725 bytes



Location Singapore, Singapore: OK
Download size: 16677 bytes



Location Santa Clara, U.S.A.: OK
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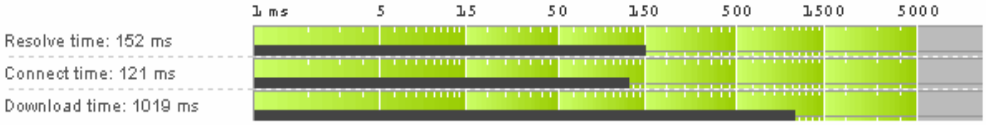

Location London, United Kingdom: OK
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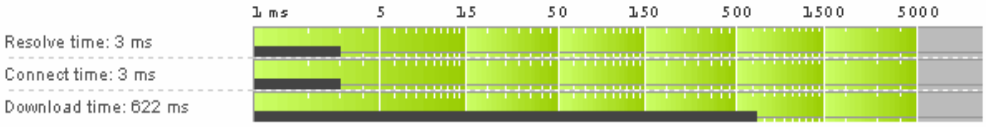

Location Amsterdam, Netherlands: OK
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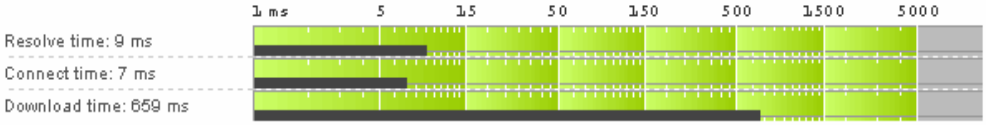

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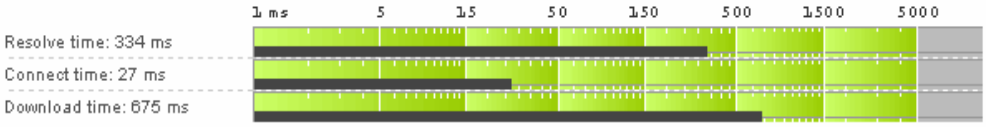

Lampiran 7 : Sekenario 1→ Download Time (GeoDNS) pengujian tahap 2

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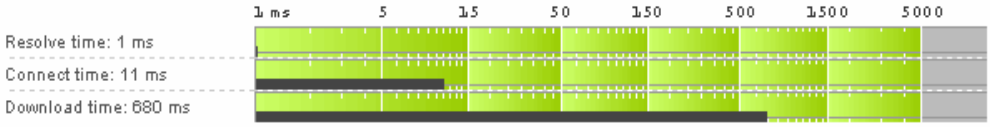

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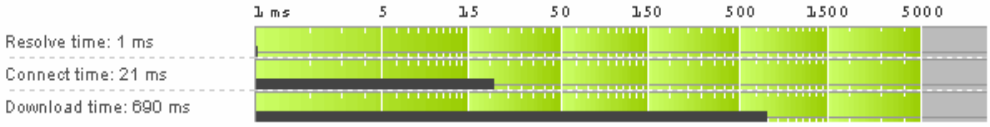

Location Austin, U.S.A.: OK
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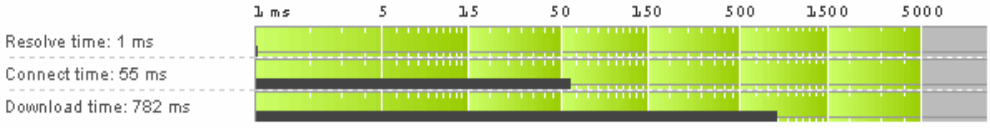

Location Melbourne, Australia: OK
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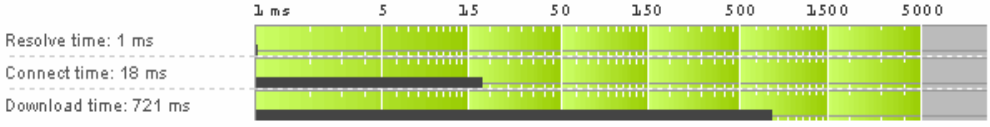

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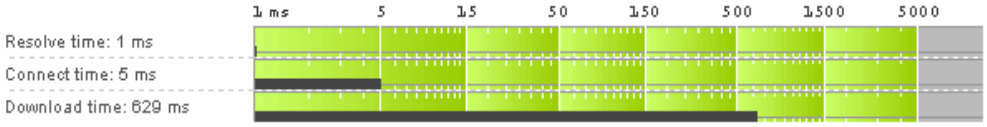

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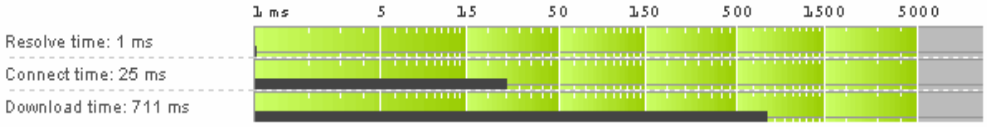

Location Hong Kong, China: OK
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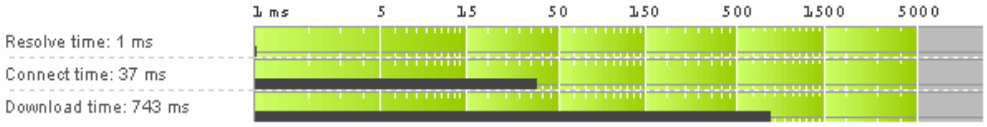

Location Cagliari, Italy: OK
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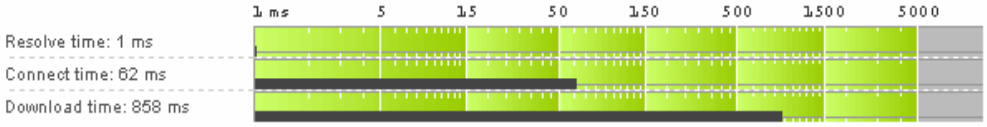

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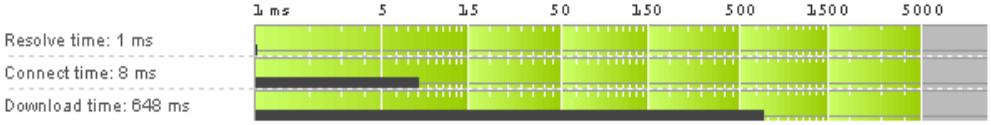

Location Shanghai, China: OK
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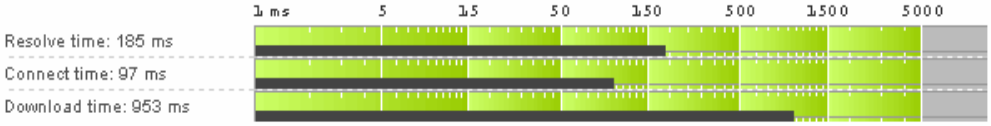

Location Austin, U.S.A.: OK
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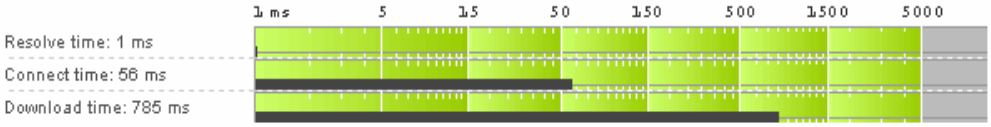

Location New York, U.S.A.: OK
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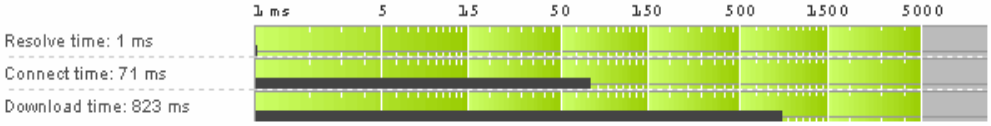

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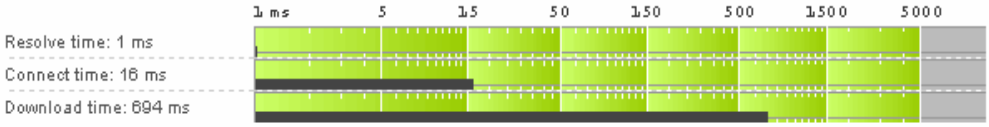

Location Florida, U.S.A.: OK
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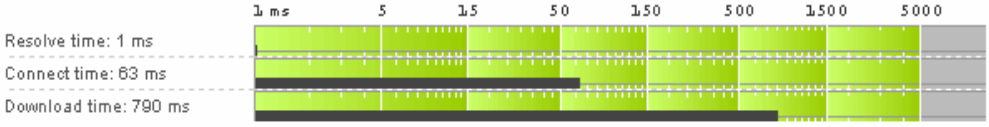

Location Munchen, Germany: OK
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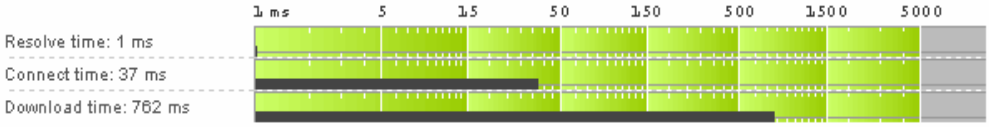

Location Kraków, Poland: OK
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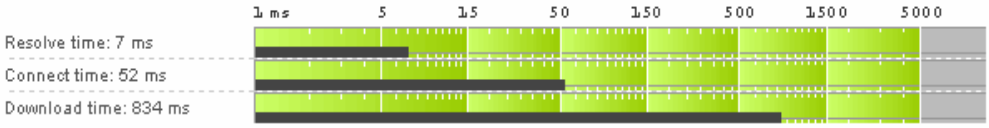

Location Porto Alegre, Brazil: OK
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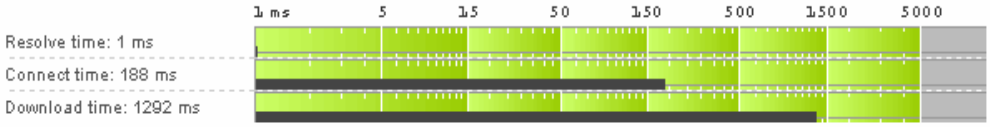

Location Stockholm, Sweden: OK
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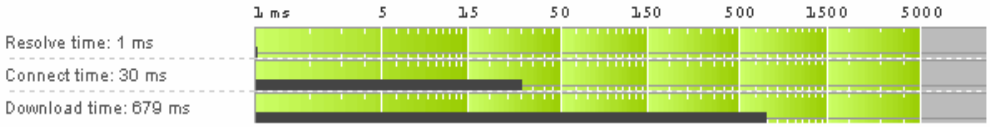

Location Vancouver, Canada: OK
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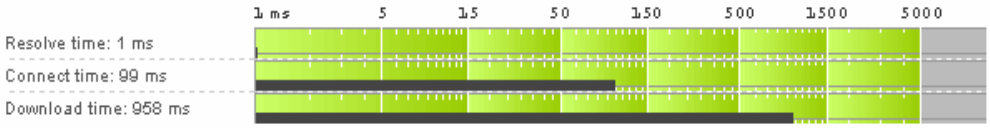

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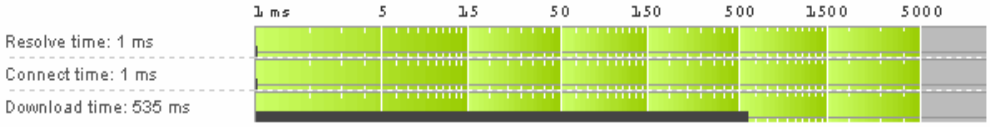

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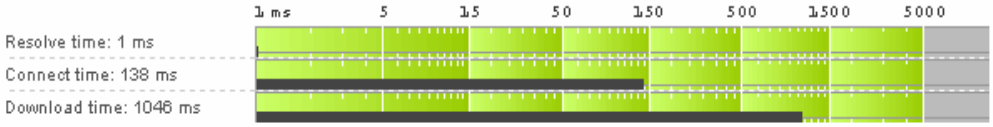

Location London, United Kingdom: OK
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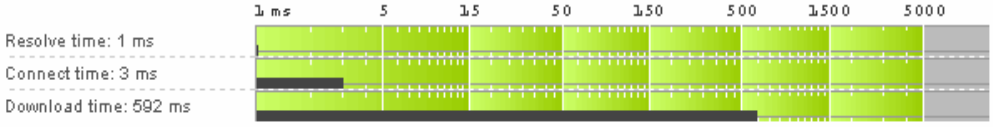

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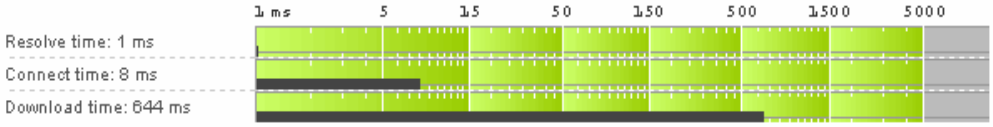
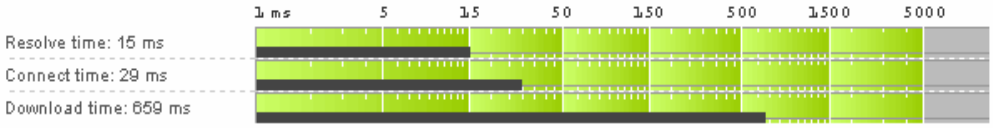
Location Copenhagen, Denmark: OK
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