



**World Radiocommunication Seminar 2016
12-16 December, Geneva, Switzerland**

Online tools and electronic communication means for terrestrial services

Andrea Manara

Broadcasting Services Division
International Telecommunication Union



Agenda



- **The eBCD2.0 platform for broadcasting services**
 - eQuery, ePub, eTools, myAdmin
 - Integration of outgoing correspondence in myAdmin
- **Online Validation and eMIFR tools for all terrestrial services**
- **Conclusion and outlook: towards fully electronic terrestrial services?**



eBCD2.0 platform for broadcasting services



[Portal description](#)



Objectives

Bring the BR closer to Administrations with added-value services

- Up-to-date broadcasting data
- Special Section at publication date
- Calculation-on-demand
- Easily follow-up on plan modification procedures and related deadlines

Outcome

- Reduce workload on both BR and administrations
- Reduce the need for printed documents

Output

eQry

ePub

eTools

myAdmin

Focal point only

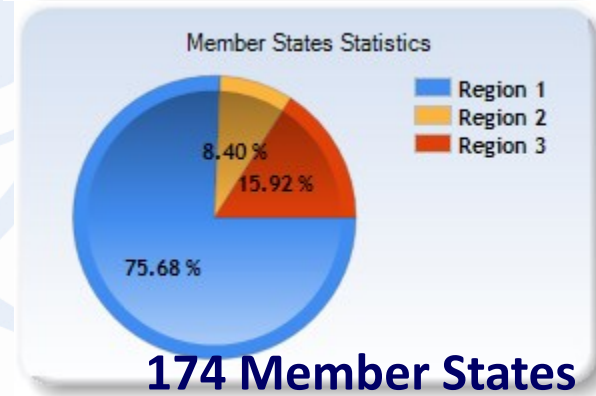
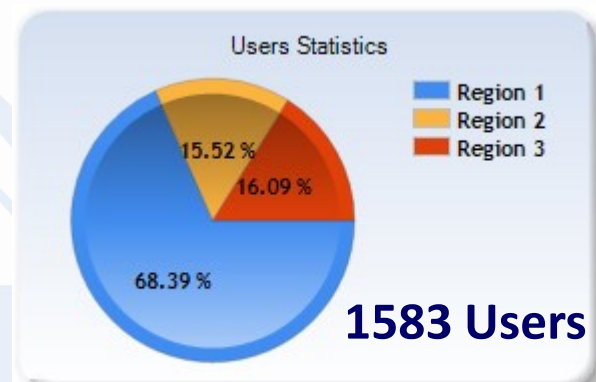
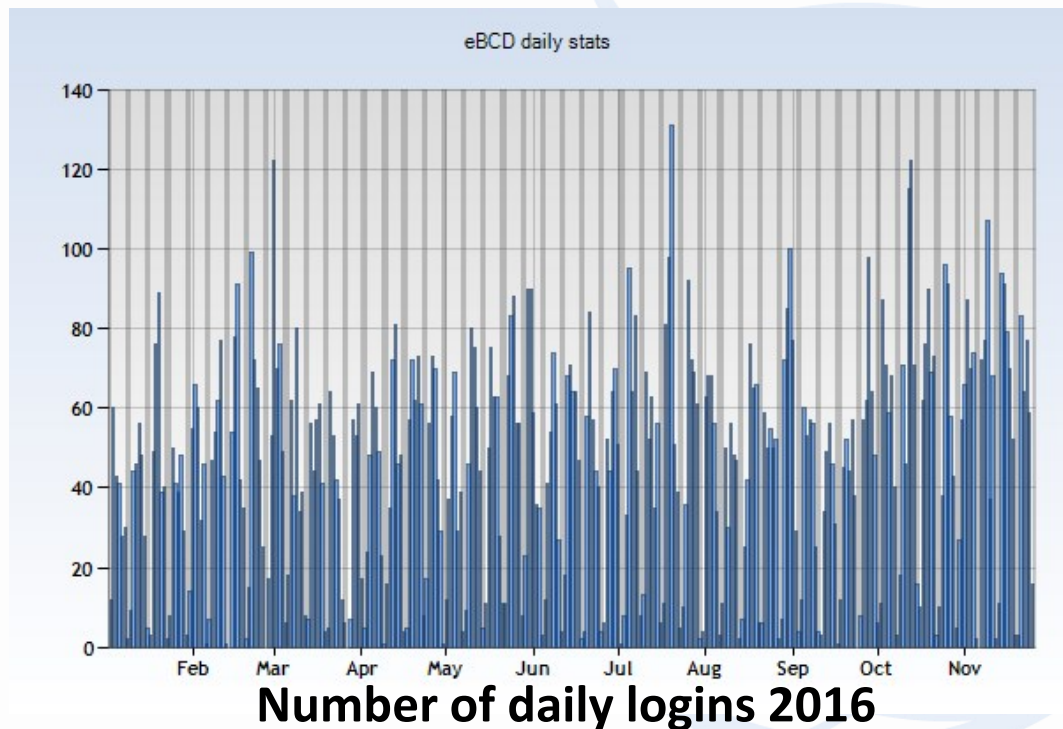
TIES users



In production since 2010



eBCD2.0 platform for broadcasting services

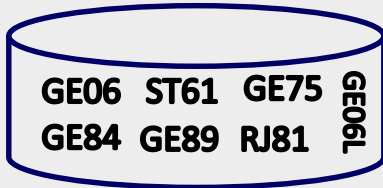


Last month statistics:
~60 logins/day, 237 users, 92 Administrations



eQry

“Online search on Plans and MIFR”



Read-Only copy of BR Database (Updated daily)

Search by:

- Administration
- Geographic Area
- Frequency
- Administration Unique Identifier
- BR Identification number
- Status (Recorded/Published)
- Site/Allotment name

Generate e-notice file (SGML) using TerRaNotices software (SOA) [GE06D,LFMF under testing]. Output downloadable from **eTools**.



ePub

“Special Sections, the publication day!”



Database Snapshots at publication date

Search by:

- BR IFIC number
- Administration
 - My notifications
 - Notifications which affects me





"On-demand test calculations"

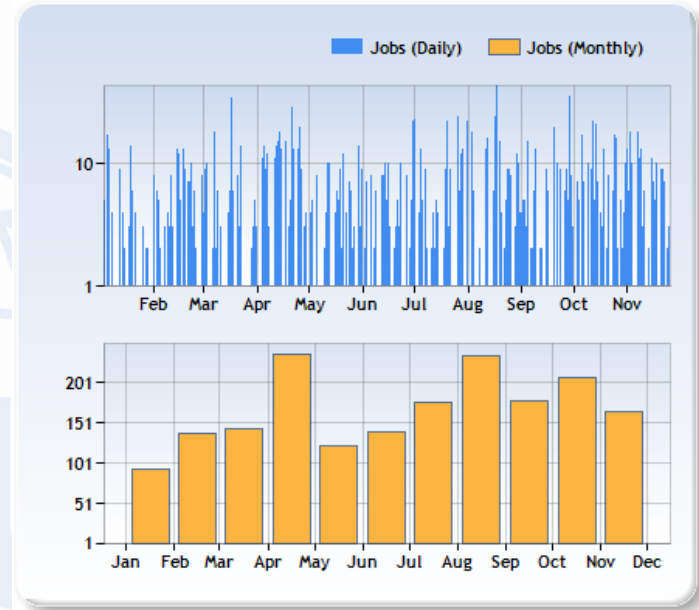
eTools



2016 statistics


More than **2000 jobs** run by **188 users** from **88 Administrations**

Calculation Type	# Jobs
GE06D Plan Modification (Coordination/Conformity)	638
GE06D Compatibility Analyses (incl. ATU, ASMG)	313
GE06A Coordination	13
GE84 compatibility (integrated online validation) 	342
RJ81 Plan modification and what-if studies	44
ITU-R P.1812 v4 & P.1546 v5 	214
Notice Generation	752




Back-end infrastructure

Calculation farm



30 processes

ITU internal farm: 30 processes distributed in such a way to minimize waiting time. 

Knowledge (2012 pilot project) to integrate external cloud resources if needed (and regulations permit).



eTools: e-notice submission

GE06, RJ81 GE84

eTools

Validate e-notice files

Upload e-notices

Multiple files from different administrations.

Complete submission

The Online Validation (reuse TerRaNotices software in a SOA architecture) was integrated for GE84 calculation. Integration planned also for GE06 and RJ81



The ITU distributed processing infrastructure will treat your test submission and inform you at completion!



Check your TIES account!

yourTIESname@ties.itu.int



eTools: job processing, privacy and collaboration



Job processing

The processing system is currently **ONLINE** (28 processes available)

Please select the calculation type
GE06 All

manara

Jobs History for user: manara

Test Packages: [click to hide all](#)

Job Id	Job Name	Job Status	Job Type	Date of Request	Date of Start Run	Date of Completion
31696	test	Pending	Art4_PlanModification	12/5/2016 3:49:24 PM		
31694	test4	InProcess	Art4_PlanModification	12/5/2016 3:47:55 PM	12/5/2016 3:48:03 PM	
31692	test2	Success	Art4_PlanModification	12/5/2016 3:45:30 PM	12/5/2016 3:45:35 PM	12/5/2016 3:46:38 PM
31690	test	Failed	Art4_Compatibility_Server	12/5/2016 3:41:48 PM	12/5/2016 3:41:57 PM	12/5/2016 3:42:22 PM

Job summary

job id	job name	job status
31690	test	Failed

Job Input

Adm	E-notice file	Number of Notices
F	testError1.txt	1

Job Output: ERROR

```
Job Preparation failed!
sfn_id frequency mismatch for assignment: LILLE-8A
```

Please contact brbcd@itu.int if the error message is unclear

Privacy and collaboration

Jobs (e-notice and results) are owned and visible **ONLY** by submitter...BUT...

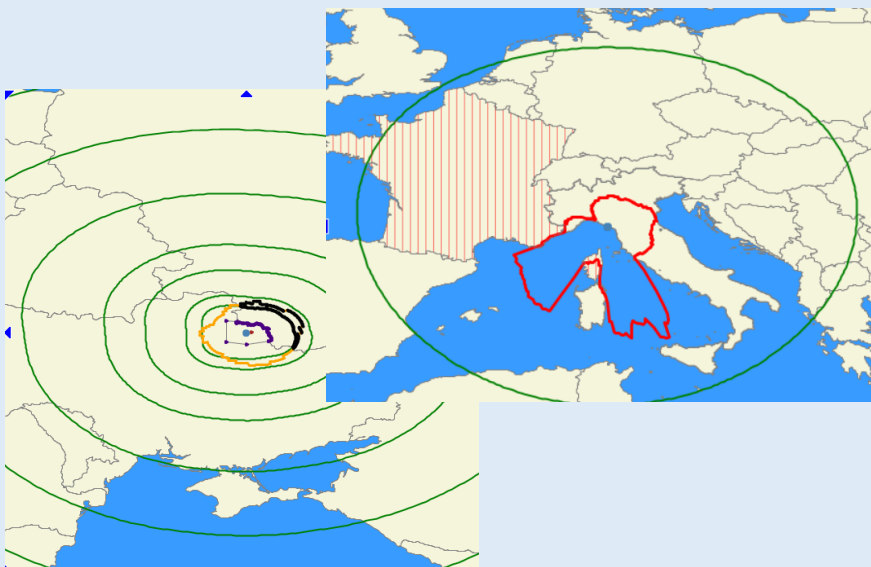
... facilitate coordination!

...you can now share them with other eBCD registered users! (web2.0)

Around **200 jobs** shared by **72 users** from **45 Administrations**

eTools: GE06D calculations

GE06D plan modification (coordination/conformity exam)



GE06 compatibility analyses

Interference calculations between new notices (from electronic notification files) and existing plan notices and recorded assignments/allotments

Job summary [Delete](#) [Share](#)

job id	job name	job status
14168	test	Success

Job Input

Adm	E-notice file	Number of Notices
LBN	LBN_12846_IN_all.txt	122

Job Output
[Download results](#)

MS Access mdb file to be visualized with GE06Calc.

Instrumental in planning activities in regional organizations

ATU (2012-2013) ASMG (2014-2015)

COMTELCA (2017) 

More during GE06 workshop!



eTools: RJ81 plan modification and what-if studies



CITEL requests (2014-2015)

[eTools Disclaimer](#)

[eTools Documentations](#)

The processing system is currently **ONLINE** (28 processes available)

Please select the calculation type

RJ81 **RJ81 what-if studies** **Beta Release**

Job Input

Adm	E-notice file	Number of Notices
ARG	ARG_13493_IN.txt	2

Job Output

Proposed Modification	Administrations with incompatibilities
760kHz_LU6	CHL B ARG
1140kHz_LU22	CHL ARG

Select the proposed modification	Select the affected protected station
All	All

RJ81

- Plan Modification
- What-if studies
- What-if studies configurable Enom

Results sw_50%_A sw_BC gw_D gw_N

ID Number	Frequency Assigned (kHz)	Country	Station Name	Class of Station	BR Serial Number Affected	Frequency Assigned Affected (kHz)	Country Affected	Station Name Affected	Class of Station Affected	RJ81 List Affected	Time of Operation	Azimuth (deg)	Distance (km)	Symbol	Protected Value (mV/m)	NFS (mV/m)	NFS or EU before (mV/m)	EU after (mV/m)	Note
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	0	14	Y	2.65	2.39	4.56	5.15	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	20	14	Y	2.65	2.39	4.56	5.15	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	40	14	Y	2.65	2.39	4.56	5.15	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	60	14	Y	2.65	2.41	4.56	5.16	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	80	14	Y	2.65	2.42	4.56	5.16	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	100	14	Y	2.65	2.44	4.56	5.17	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	120	14	Y	2.65	2.46	4.56	5.18	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	140	14	Y	2.65	2.48	4.56	5.19	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	160	14	Y	2.65	2.5	4.56	5.2	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	180	14	Y	2.65	2.51	4.56	5.21	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	200	14	Y	2.65	2.51	4.56	5.21	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	220	14	Y	2.65	2.5	4.56	5.2	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	240	14	Y	2.65	2.49	4.56	5.2	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	260	14	Y	2.65	2.48	4.56	5.19	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	280	14	Y	2.65	2.46	4.56	5.18	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	300	14	Y	2.65	2.44	4.56	5.17	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	320	14	Y	2.65	2.42	4.56	5.16	
1	760	ARG	LU6	B	090001717	760	B	PLANALTO	B	A	N	340	14	Y	2.65	2.4	4.56	5.16	
1	760	ARG	LU6	B	081010190	760	B	CANDELARIA	C	A	N	200	11	Y	4.18	3.63	7.25	8.11	

If there is interest we can organize a RJ81 training session during WRS!



eTools: GE84 compatibility analyses



Job summary

[Delete](#)[Share](#)

job id	job name	job status
29866	test	Success



Job Input

Adm	E-notice file	Number of Notices
HRV	HRV_amendment_notice.txt	1

Configuration Information

Top 20 only
 Consider Tip
 TV also
 Polarization Discrimination (dB)
 Trigger NFS from proposed modification for EU calculations (dB (µV/m))

Job Output

Input notice file validated by the OnlineValidation process on 10/10/2016 4:09:57 PM

Proposed Modification	Administrations with which the limits of 4.3.7.1/4.3.7.2 are exceeded	Eu (dB(µV/m))
87.8MHz_BOGOMOLJE	BIH HRV SVN SRB I GRC	93.579

Select the proposed modification

87.8MHz_BOGOMOLJE ▼

[Export Results to Excel](#)[GE84 Compatibility Analyses Description](#)

Results **Interference To** Interference From

Assign ID	Adm	Intent	Stn Cls	Assigned Frequency (MHz)	Polar	Site Name	Total Distance (km)	Cold Sea Path (km)	Warm Sea Path (km)	Super refractivity Path (km)	ERP (dBW)	Azimuth (deg)	Protection Ratio (dB)	NFS (dB (µV/m))	EU Ref (dB (µV/m))	Proposed EU (dB (µV/m))	Current EU (dB (µV/m))	EU increase (dB (µV/m))
084005671	BIH	RECORDED	BC	87.8	M	CAPLJINA	51	0	19	0	30	90	45	90.327	91.374	96.91	91.439	5.471
084006190	HRV	RECORDED	BC	87.7	H	BABINO POLJE	61	0	55	0	27.1	136	33	79.33	84.221	89.068	86.734	2.334
084006380	HRV	RECORDED	BC	87.9	H	LASTOVO	42	0	42	0	15	193	33	76.784	88.541	90.056	88.492	1.564
084005599	BIH	RECORDED	BC	87.8	M	FOCA KMUR	143	0	20	0	30	74	37	69.607	96.018	96.208	96.048	0.16
084005728	BIH	RECORDED	BC	87.8	H	JAJCE JEZERO	134	0	9	0	29.5	5	37	69.399	83.394	90.162	89.735	0.427
084005611	BIH	RECORDED	BC	87.9	M	KONJIC B	91	0	16	0	30	58	25	66.226	89.715	89.697	89.472	0.225
084006435	HRV	RECORDED	BC	87.7	H	MOLUNAT	137	0	53	0	29.8	122	25	61.07	82.625	83.407	83.155	0.252
084006572	HRV	RECORDED	BC	88	H	STON	64	0	39	0	29.9	121	7	58.611	95.551	95.057	95.048	0.009
084006629	HRV	RECORDED	BC	87.7	H	VRLIKA	100	0	10	0	24.6	333	25	57.545	81.403	93.97	93.956	0.014
084005512	BIH	RECORDED	BC	87.7	M	HUM	138	0	15	0	30	53	25	57.075	94.988	96.202	96.196	0.006
084005730	BIH	RECORDED	BC	87.9	H	KAKANJ	141	0	11	0	30	39	25	56.38	109.908	109.91	109.91	0
084006200	HRV	RECORDED	BC	87.8	H	BIOGRAD	160	0	29	0	17.4	307	37	55.344	78.313	94.045	94.037	0.008
084102538	GRC	RECORDED	BC	87.8	H	AGNANTIA	392	0	288	0	26	140	37	51.682	80.518	129.753	129.753	0
084005737	BIH	RECORDED	BC	87.9	M	KLADANJ	183	0	13	0	30	48	25	50.908	91.894	91.874	91.872	0.002

More during GE84 workshop!





eTools: ITU-R P series calculations



P.1812-4(07-15)

Beta Release!

Propagation prediction using terrain profile (deterministic model)

- 30 MHz - 3 GHz
- 0.25 km - 3000 km
- 1% < time < 50%
- 1% < locations < 99%
- Rx and Tx hgt agl <= 3km

SRTM3 terrain database 3 arc-sec resol. (90 m)
Planned to move to 1 arc-sec (30m) early 2017

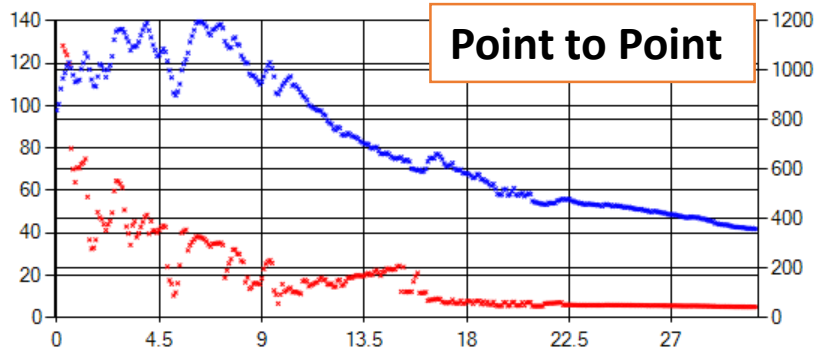
P.1546-5(09-13)

Beta Release!

Propagation prediction (empirical model)

- 30 MHz - 3 GHz
- 1 km - 1000 km
- 1% < time < 50%
- 1% < locations < 99%
- TX eff hgt <= 3km

Terrain database can be used (clearance angle correction) to improve accuracy



More during eBCD workshop!



myAdmin



*"My own office for broadcasting services
@ ITU: opening ~24/7"*

CR 408: Restricted access to **focal point** only since **November 2016** for myAdmin and e-mail notification services.

AGL	BEN	CME	EGY	I	LVA	NZL	RUS	SVN
ALG	BHR	CTI	EST	IND	MDA	OMA	SDN	TUN
ARS	BIH	CVA	F	IRL	MLA	PAK	SEY	UKR
AUS	BLR	CYP	FIN	KAZ	MLI	PHL	SNG	UZB
AUT	BOL	CZE	G	KIR	MLT	POR	SRB	VTN
AZE	BUL	D	GEO	KOR	MRC	PSE	SUI	ZMB
BEL	CHN	DNK	HNG	LUX	NOR	ROU	SVK	

160 focal points TIES account from **62 administration**

brbcd@itu.int


If focal point not notified → BR will use official email addresses for notification services (BUT no myAdmin access then ☹)



Mailbox: BR Output Channel Communication between the BR and the Member State

Notices under Review (GE06)


[GE06D notices to be deleted in 30 days \(in coordination since 2 years and 75 days\): 49](#)

GE06D  [GE06D: assignments in the Waiting ReviewQ: 267](#)

Export to Excel | Google Earth | Generate e-notice

Total number of records 49. Click on headers to sort

Adm Id	BR Id	Date of Receipt
KGZ/JAL/058	114088466	24 Jul 2014
KGZ/JAL/059	114088467	24 Jul 2014
KGZ/JAL/060	114088468	24 Jul 2014


GE06D  [GE06D: assignments in the Waiting ReviewQ: 267](#)

Export to Excel | Google Earth | Generate e-notice

Total number of records 267. Click on headers to sort

Adm Id	BR Id	Adm Intent	PE	Sit
0001-0099	115154418	NOR ADD	4	FOI
0001-0100	115154416	NOR ADD	4	SOI
0001-0170	116098510	NOR ADD	4	ÄRI
0001-0171	116098511	NOR ADD	4	ÄFJ

Notices under conformity review: 2

GE06D  [GE06D: assignments in the Waiting ReviewQ: 267](#)

Export to Excel | Google Earth | Generate e-notices (Export to SGML)

Total number of records 2. Click on headers to sort

Adm Id	BR Id	Adm Intent	PE	Site/Allot Name	TV Channel/Freq Block
GNCCBT621	116184059	GEO ADD	3	DAMALA	9
GNCCBT622	116184060	GEO ADD	3	AKHALKALAKI	11

Latest Special Sections annex to the latest BR IFIC (2834) on date 6 Dec 2016



Your proposed plan modifications published

Plan	Special Section	PubPart	Number of Notices
GE06	125	A1	4
GE06	125	B1	5

Plan modifications affecting your administration published

Plan	Special Section	PubPart	Number of Notices
GE06	125	A1	18



Plans and MIFR dashboard



Your own office for broadcasting services at the ITU
(last update: 30 Nov 2016)

- MailBox
- GE06D
- GE06A
- GE84**
- ST61
- GE75
- RJ81
- MIFR

Recorded Assignments	7513
Notices under treatment	85
Notices under treatment ready for Part B	22
Notices under treatment receiving objection	58
Notices under treatment which affect me	412
Notices under treatment which affect me I objected to	99
Comments given in the last period (30 days)	14
Comments received in the last period (30 days)	13

GE84/F

Total number of records 22. Click on headers to sort

Export to Excel | Google Earth | **Generate TB3**

BR Id	Adm	Site Name	Assigned Frequency	Intent	Special Section	End Date (Comments)	Coord Completed
116103589	F	POMMIERS	95.8	ADD	242		AUT BEL D E I LIE LUX MCO SUI
116103588	F	SAINTES BEAULIEU	105.3	MODIFY	242		E G
116112427	F	ISBERGUES	101.7	MODIFY	242		BEL D G HOL LUX SUI
116112426	F	LA FERTE BERNARD 2	95.8	MODIFY	242		AUT BEL D G HOL I LIE LUX SUI

GE84/Affected for F

Total number of records 412. Click on headers to sort

Export to Excel | Google Earth | Generate e-notices (Export to SGML)

BR Id	Adm	Site Name	Assigned Frequency	Intent	Special Section	End Date (Comments)	Coord Completed
116184619	G	RHYL C	103.1	ADD	246	2 Mar 2017	
116190417	G	MANCHESTER HULME C	90.1	ADD	246	2 Mar 2017	
116184631	LUX	Luxembourg	103.4	ADD	246	2 Mar 2017	BEL D F G HOL SUI
116184621	SUI	MALIX BRAMBRUEESCH	99.2	MODIFY	246	2 Mar 2017	AUT D F I LIE



E-mail notification services



Sun 11/27/2016 4:49 AM

eBCD, ITU



Every Sunday 4.00 a.m.

Recording of new coordinations/objections regarding your plan modifications (FIN)

To kari.hautala@ficora.fi; kari.kangas@ficora.fi; ari.lahtinen@ficora.fi; markus.mettala@ficora.fi; teemu.ovaska@ficora.fi

Dear Madam/Sir



Wed 11/23/2016 4:46 AM

eBCD, ITU



Publication of your proposed plan modifications (G)

The Radiocommunications have just been entered

To dowlandt@ties.itu.int; freemanp@ties.itu.int; ngreen@ties.itu.int; hillsala@ties.itu.int; jamesmar@ties.itu.int; pollitt@ties.itu.int

Latest Coordinations

assgn_id	pub_id
116113557	119
116113558	119
116150059	122

Dear Madam/Sir



Wed 11/23/2016 4:46 AM

eBCD, ITU



Publication of plan modifications affecting your administration (RUS)

The Radiocommunications Bureau informs you that plan modifications affecting your administration have just been published in the relevant Special Sections annex to BR IFIC 2833, on date 22/11/2016

To Shibaeva, Polina (TIES); p.shibaeva@grfc.ru; Sidelnikova, Svetlana (TIES); s.sidelnikova@grfc.ru

Plan
GE84

Dear Madam/Sir

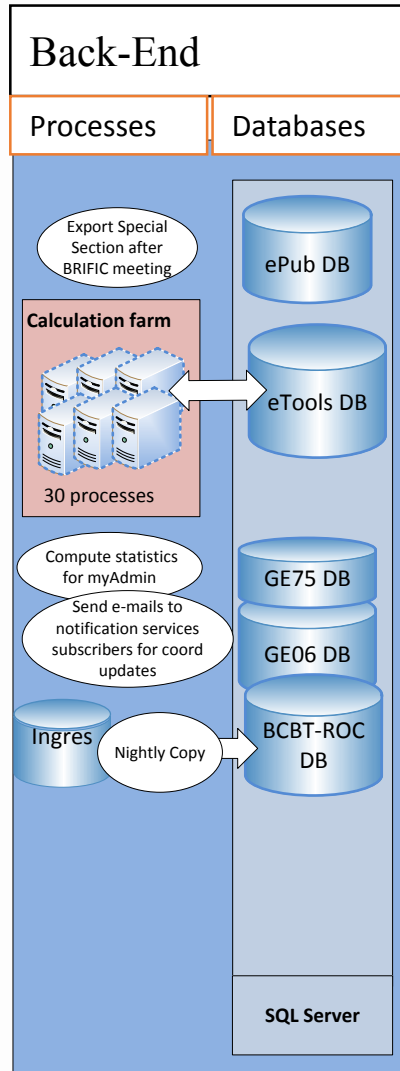
The Radiocommunications Bureau informs you that plan modifications affecting your administration have just been published in the relevant Special Sections annex to BR IFIC 2833, on date 22/11/2016

Plan	Special Section	NoNotices
GE84	246	73

For all detailed information please visit [ePub](#)



eBCD2.0 platform for broadcasting services



Front-End



"Special Sections, the publication day!"



"My test calculations on-demand"



"Fast search on Plans and MIFR"



Focal point only

"My own office for broadcasting services @ ITU: opening ~24/7"

MailBox

- Latest Special Section
- Latest received agreements
- GE06 notices under review

E-mail notification services (Coordination, Special Section)





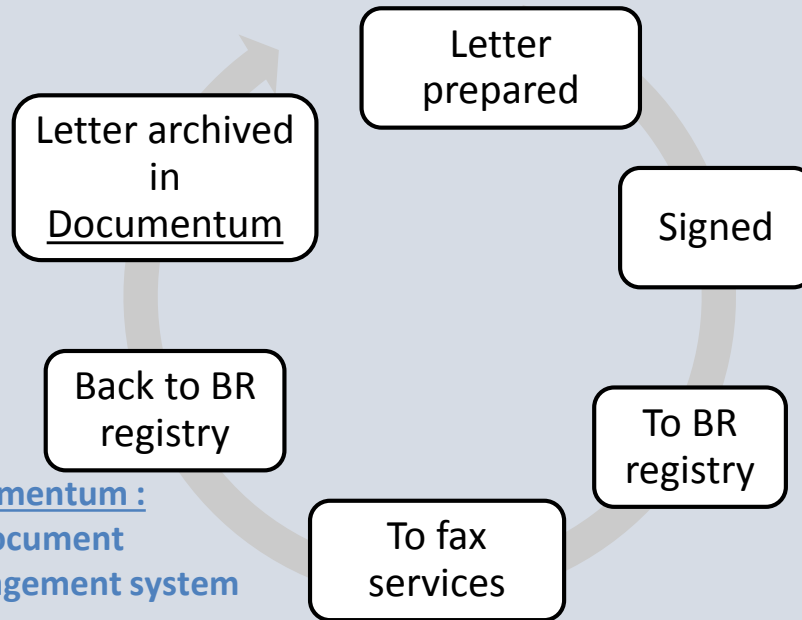
Outgoing correspondence



Rule of Procedure PART A10 (October 2016): reminders pursuant to §4.1.4.10 and §4.2.4.9 (GE06) should be made simultaneously available for the administrations concerned using **other electronic means of communication**, e.g. using myAdmin

The BR decided to expose all outgoing correspondence for broadcasting plans

Outgoing correspondence life-cycle



Documentum :
BR document
management system

To automate the system: review and modify business processes

Process to retrieve each night new ARCHIVED letters and related metadata
 $d_{\text{yesterday}} < d_{\text{sent}} < d_{\text{now}}$

2) Determine:

- Date_deadline
- Date_reminder (if any)

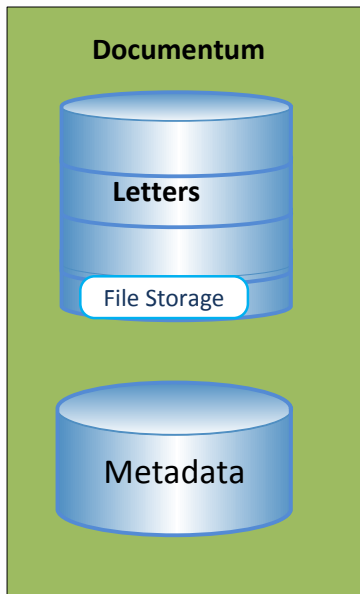
1) Retrieve pdf and metadata

- d_sent
- Rx Adms
- Language
- Plan Name
- Special Section
- Reminder Type

3) Store data in myAdmin back-end database

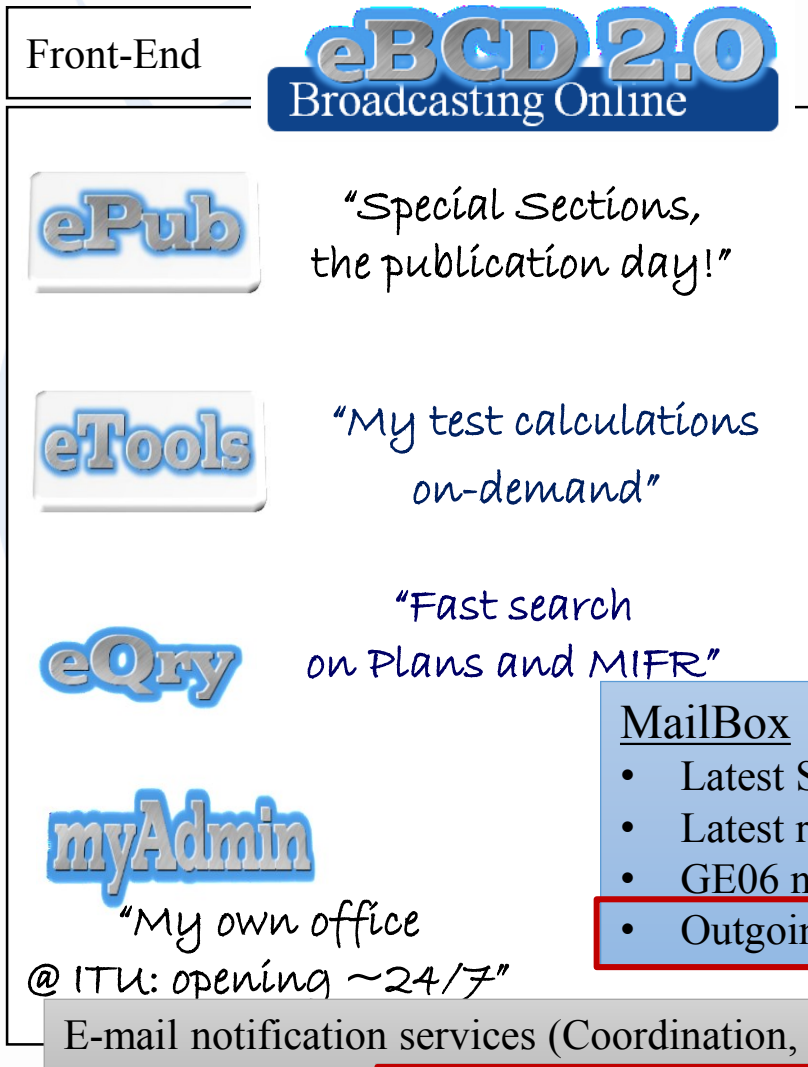
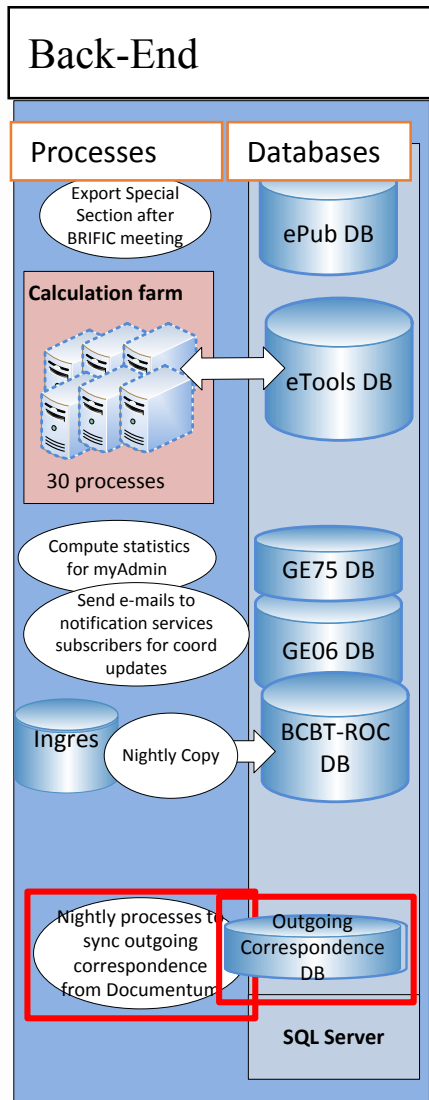
Outgoing Correspondence DB

SQL Server





eBCD2.0 platform for broadcasting services with outgoing correspondence



- MailBox**
- Latest Special Section
 - Latest received agreements
 - GE06 notices under review
 - **Outgoing Correspondence**

Outgoing Correspondence





myAdmin: outgoing correspondence



Focal point only

Beta test since 14 November 2016
(sent **58 letters** (from 15 Sep. 2016)
to **81 Administrations**)

First week of beta testing:
39 focal points from **29**
administrations opened the pdf file

Mon 11/14/2016 2:56 PM

 eBCD, ITU 

Special Section GE06/123 of BRIFIC No 2830 dated Tuesday, October 11, 2016 (ALG)

To maghraou@ties.itu.int; maghraouiimene@gmail.com; derrijj@ties.itu.int; derridjassia@gmail.com; Belaid, Hamza (TIES); belaidhamza@gmail.com

Cc Castro, Juan Luis

Dear Madam/Sir

On date Tuesday, October 11, 2016 the Bureau addressed you a correspondence (Ref. No.31B(BCD)O-2016-003883) concerning the above-mentioned Special Section.

The Bureau wishes to inform you that this correspondence is now available also in the Mailbox section of the [myAdmin](#) portal.

myAdmin

Your own office for broadcasting services at the ITU (last update: 30 Nov 2016)

Adm(ITU) | **MailBox** | GE06D | GE06A | GE84 | GE89 | GE75 | MIFR

 Welcome user manara

BR Outgoing Correspondence (BETA release)

Plan	Special Section	Correspondence	Date Letter	Deadline	Document	Number of days for comment/action
GE84	245	Publication of Special Section	25 Oct 2016	14 Dec 2016	31E(BCD)O-2016-004155	14
GE06	123	Publication of Special Section	11 Oct 2016	25 Dec 2016	31B(BCD)O-2016-003883	25
GE84	243	70 days reminder	9 Nov 2016	8 Dec 2016	31E(BCD)O-2016-004412	8
GE84	242	70 days reminder	19 Sep 2016	13 Oct 2016	31E(BCD)O-2016-003471	expired





Online Validation



Delivered prior to WRS-14

The [Online Validation](#) tool allows administrations to validate their notice file, before official submission via WISFAT

The processing system is currently **ONLINE**
 Contact: brtpr_dp@itu.int

Reuses TerRaNotice validation software and eTools functionalities in a SOA architecture

Jobs History for user: manara
 Test Packages 31412: click to show all

Job summary [Delete](#)

job id	job name	job status
31412	ugatest	Completed

Job Input

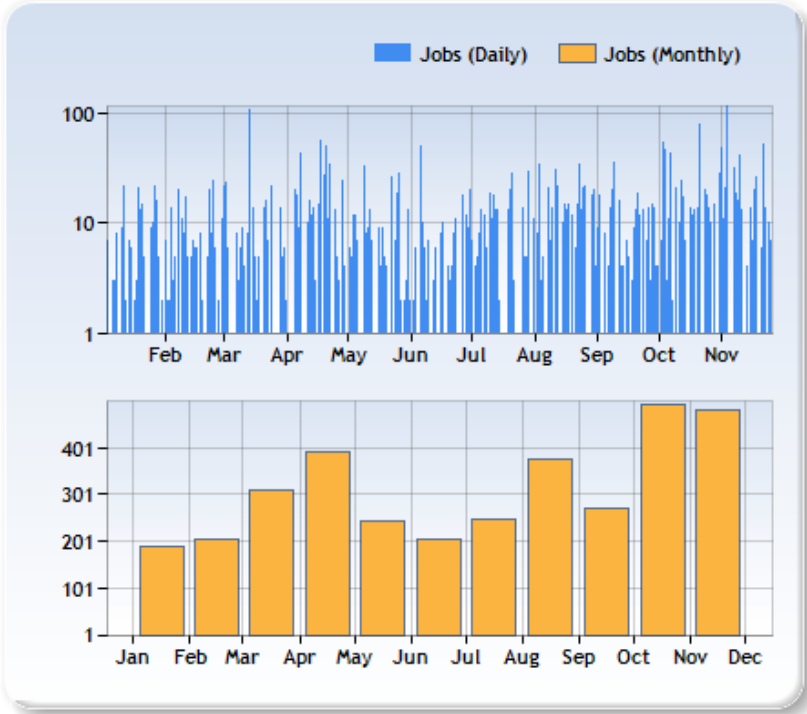
Adm	E-notice file	Number of Notices
UGA	UGAtest.txt	1

Job Output

Parse status: **T_PARSE_HAS_WARNINGS**
 Total number of errors: 4
 Total number of warnings: 1

Notice 1 (Line 4) - GT1/MODIFY
 Line 4 : DeepVal Warning - Could not perform further notices validation checking, due to previous errors.
 Line 1 (4) : Error : Either t_ref_plan_cfg OR t_sys_var & t_rx_mode should be submitted for this notice type.
 Line 17 (20) : Error : t_ref_plan_cfg : invalid value or make sure that the value is typed correctly
 Line 9 (12) : Error : t_site_nae : is EITHER not applicable in this case OR check the spelling.
 Line 1 : Error : t_site_name : mandatory key missing or the associated key value is invalid.

2016 Statistics



- 64 Administrations
- 163 Users
- > 4500 Validation jobs

More during Validation workshop!



eMIFR

Query system for the simultaneous retrieval of data from the terrestrial portion of the MIFR (FMTV, LFMF and FXM)



Delivered prior to WRC-15



MIFR (Terrestrial Services) on-line query (BETA release)

MIFR (Broadcasting)
 MIFR (FXM)
 MIFR (all)

MIFR (ALL): Selection Criteria

Administration	Geographic Area	Notice Type	Class of Station
AFG AFS AGL ALB ALG ARG ARM ARS	ABW AFG AFS AGL AIA ALB ALG ALS	1A1 1A2 1A4 1A5 1A7 1B1 1C1 1Z0	AL FA FB FC FD FG FL FP

Recorded
 Pending

Assigned Frequency MHz: f_{min} f_{max}
 f_{min} ≤ Assigned Frequency ≤ f_{max} only

Unique Id. code given by Administration:
 Identifier assigned by the BR from to

Date of Receipt (from):
 Date of Receipt (to):

Site Name: TORINO

MIFR (All) IFL: 080623514

Administrative

Emission Characteristics

Assigned Frequency (MHz) **1052** Nature of Service
 Reference (carrier) Frequency Frequency deviation (MHz)
 Class of Emission **PXX-** Energy dispersal (kHz)
 Bandwidth Code **700K** System Type Code(s)

Station and Site Information

Operations

Operation 1

General Characteristics

Power Type	X	Polarization
Power to the Antenna (dBW)	30	Antenna Directivity
Radiated Power (dBW)	30 E	Azimuth of Maximum Radiation (°)
Maximum Antenna Gain (dB)		Maximum Effective Antenna Height (m)
Maximum Gain Toward the Local Horizon (dB)		Height of Antenna Above Ground Level (m)
Gain Type		Elevation Angle (°)
Maximum Power Density (dBW/Hz)		Beamwidth (°)
		Reference Antenna

Receiving Station Information

RX1

Site Name	Geographical Type	CIRCLE
Geographical Area	Zone ID	
Region 1	Geographical coordinates	007°39'00" E - 45°11'00" N
	Radius (km)	80

Findings Information

1A4 BT

MIFR (All)

Total number of records 10. Click on headers to sort

Export to Excel | Google Earth

BR Id	Adm	Geo Area	Site Name	Location	Assigned Frequency (MHz)	Intent
080015495	I	I	TORINO	007°44'00" E - 45°02'00" N	0.657	RECORDED
080225070	I	I	TORINO COLLINA	007°42'00" E - 45°06'00" N	212.5	RECORDED
080606153	I	I	TORINO COLLINA	007°40'00" E - 45°04'00" N	522	RECORDED
080607250	I	I	TORINO	007°44'00" E - 45°02'00" N	546	RECORDED
080608609	I	I	TORINO	007°39'00" E - 45°04'00" N	578	RECORDED
080610086	I	I	TORINO	007°44'00" E - 45°02'00" N	626	RECORDED
103046152	I	I	TORINO	007°44'00" E - 45°02'00" N	746	RECORDED
080623514	I	I	TORINO CASELLE	007°39'00" E - 45°11'00" N	1052	RECORDED
080623522	I	I	TORINO CASELLE	007°39'00" E - 45°12'00" N	1056	RECORDED
080623683	I	I	TORINO POIRINO	007°52'00" E - 44°55'00" N	1116	RECORDED

More during BR IFIC workshop!



Conclusion and outlook: Towards fully electronic terrestrial services?



- eBCD2.0 platform constantly improved and extended.
- SOA architecture, shows the flexibility of the system, which can be easily expanded to incorporate other online services.
- New Online Tools for terrestrial services (Online Validation and eMIFR)
- The platform might serve as a basis for online access to different databases, publication, correspondence and calculations, providing administrations with added value services.
- Your e-feedback is important! Please answer the [2016 online survey](#)

“Thanks for your attention!”