

Accomplishing Transparency within the General Data Protection Regulation

(Auxiliary material)

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This document intends to complement and expand the content presented in [Spagnuolo et al., 2019].

In this auxiliary material we present current Transparency Enhancing Tools (TETs) and their correlation with the European General Data Protection Regulation (GDPR). We systematically present a list of TETs classified according to TETCat [Zimmermann, 2015] (see Table 1). We also expand a table with transparency-related GDPR Articles, paragraphs and sub-paragraphs, in comparison with the TETs which help realising them (see Table 2).

*Supported by FNR/AFR project 7842804 TYPAMED

†Supported by CORE/FNR project 11333956 DAPRECO

TET	Applic. time	Exec. envir.	Data type	Target	Deliv. mode	Auth. level	Interac. level	Scope	Assur. level	Transp. dim.	Attack.	Info. source	TETCat
Mozilla Lightbeam (ML)	Real-time, Ex-post	Client-side	Obs.	Data-subject	Pull	Anonym.	Read-only	Multi-org.	Not trusted	C	TP	(T)TP	Assertion
P3P	Ex-ante	Server-side	Policy	Data-subject	Push	Anonym.	Read-only	Multi-org.	(Semi) Trusted	C/U/2 nd U	Serv. Prov.	Data Contr.	Awareness
PrimeLife Policy Language (PPL)	Ex-ante	Hybrid	Policy	Data-subject	Push	Anonym.	Interac. (C/U)	Multi-org.	(Semi) Trusted	C/U/2 nd U	Serv. Prov.	Data Contr.	Declaration
Data Track (DT)	Ex-post	Hybrid	Volunt., Obs., Incid., Deriv.	Data-subject	Pull	Full Id.	Read-only	Multi-org.	(Semi) Trusted	C/A	Serv. Prov.	Data Contr.	Audit
Privacy-Insight (PI)	Ex-post	Hybrid	Volunt., Incid., Obs., Deriv.	Data-subject	Pull	Full Id.	Interac. (C/U/M/D)	Multi-org.	(Semi) Trusted	C/A/U/2 nd U	Serv. Prov., TP, Users	Data Contr.	Remediation
Privacy Risk Analysis (PRA)	Ex-ante	(T)TP-based	Policy	Data-subject	Pull	Anonym.	Read-only	Multi-org.	Not trusted	C/A/U/2 nd U	Serv. Prov., Users, TP	(T)TP	Assertion
GDPR Privacy Dashboard (GPD)	Ex-post	Server-side	Volunt., Incid., Obs., Deriv.	Data-subject	Pull	Full Id.	Interac. (C/U/M/D)	Multi-org.	(Semi) Trusted	C/A/U/2 nd U	Serv. Prov., TP, Users	Data Contr.	Remediation
Personal Data Table (PDT)	Ex-post	Server-side	Volunt., Incid., Obs., Deriv.	Data-subject	Pull	Full Id.	Read-only	Service	(Semi) Trusted	C/A/U/2 nd U	Serv. Prov.	Data Contr.	Audit
Disconnect me (DM)	Real-time, Ex-post	Client-side	Obs.	Data-subject	Push	Anonym.	Interac. (C/U)	Multi-org.	Not trusted	C/2 nd U	TP	(T)TP	Assertion

Me and My Shadow (MMS)	Ex-ante	(T)TP-based	Policy	Data-subject	Pull	Anonym.	Read-only	Multi-org.	Not trusted	C/A/U/2 nd U	Serv. Prov., Users, TP	(T)TP	Assertion
EuroPriSe	Ex-ante	(T)TP-based	Policy	Data-subject, Auditor	Push	Anonym.	Read-only	Multi-org.	(Semi) Trusted	C/A/U/2 nd U	Serv. Prov., TP	(T)TP	Awareness
Privacy Score (PS)	Ex-ante	(T)TP-based	Policy	Data-subject, Auditor	Pull	Anonym.	Read-only	Multi-org.	Not trusted	2 nd U	Serv. Prov., TP	(T)TP	Assertion
Google Dashboard (GD)	Ex-post	Server-side	Volunt., Incid., Obs., Deriv.	Data-subject	Pull	Full Id.	Interac. (C/U/M/D)	Org.	(Semi) Trusted	C/A/U/2 nd U	Serv. Prov.	Data Contr.	Remediation
Privacy Evidence (PEv)	Ex-post	Hybrid	Policy	Auditor, Data-subject	Pull	Full Id.	Read-only	Multi-org.	(Semi) Trusted	C/U	Serv. Prov.	Data Contr.	Audit
TAMI Project	Ex-post	Hybrid	Volunt., Incid., Obs., Deriv.	Auditor, Data-subject	Pull	Full Id.	Read-only	Multi-org.	(Semi) Trusted	U	Users	Data Contr.	Audit
Privacy Through Transp. (PTT)	Ex-post	Server-Side	Volunt.	Data-subject, Auditor	Pull	Full Id.	Interac. (C/U)	Multi-org.	(Semi) Trusted	C/U	Users	(T)TP	Intervention
Private Verif. of Access (PVA)	Ex-post	Hybrid	Volunt., Obs., Incid., Deriv.	Data-subject	Pull	Anonym.	Read-only	Multi-org.	(Semi) Trusted	C/U	Users, Serv. Prov.	(T)TP	Audit
Privacy Badger (PB)	Real-time, Ex-post	Client-side	Obs.	Data-subject	Push	Anonym.	Interac. (C/U)	Multi-org.	Not trusted	C	TP	(T)TP	Assertion

Access My Info (AMI)	Ex-post	Client-side	Volunt., Incid., Obs., Deriv.	Data-subject	Pull	Full Id.	Read-only	Multi-org.	Not trusted	C/A	Serv. Prov.	Data Contr.	Assertion
TrustArc	Ex-ante	(T)TP-based	Policy	Data-subject, Auditor	Push	Anonym.	Read-only	Multi-org.	(Semi) Trusted	C/A/U/2 nd U	Serv. Prov., TP	(T)TP	Awareness
openPDS	Real-time, Ex-post	Client-side	Volunt., Incid., Obs., Deriv.	Data-subject	Pull	Full Id.	Interac. (C/U/M/D)	Multi-org.	(Semi) Trusted	C/A/U	Serv. Prov.	(T)TP	Remediation
Digi.me	Real-time, Ex-post	Hybrid	Volunt., Incid., Obs.	Data-subject	Pull	Full Id.	Read-only	Multi-org.	(Semi) Trusted	C	Serv. Prov.	Data Contr.	Audit
Microsoft Dashboard (MD)	Ex-post	Server-side	Volunt., Incid., Obs., Deriv.	Data-subject	Pull	Full Id.	Interac. (C/U/M/D)	Org.	(Semi) Trusted	C/A/U/2 nd U	Serv. Prov.	Data Contr.	Remediation
Privacy eSuite (PeS)	Real-time, Ex-post	Hybrid	Volunt., Incid.	Data-subject, Auditor	Pull, Push	Full Id.	Interac. (C/U)	Multi-org.	(Semi) Trusted	C/U	Serv. Prov.	Data Contr.	Intervention
Meeco (Mee)	Real-time, Ex-post	Hybrid	Policy, Volunt.	Data-subject	Pull	Full Id.	Interac. (C/U/M/D)	Multi-org.	(Semi) Trusted	U	Serv. Prov.	(T)TP	Remediation
Blue Button (BB)	Ex-post	Server-side	Volunt., Obs., Incid., Deriv.	Data-subject	Pull	Full Id.	Read-only	Multi-org.	(Semi) Trusted	C	Serv. Prov.	Data Contr.	Audit
Usable Privacy (UP)	Ex-ante	(T)TP-based	Policy	Data-subject	Pull	Anonym.	Read-only	Multi-org.	(Semi) Trusted	C/A/U/2 nd U	Serv. Prov.	Data Contr.	Awareness

Table 1: TET classified according to their characteristics. (T)TP = (Trusted) Third Party; C = Collection; U = Usage; M = Modification; D = Deletion; A = Analysis; 2ndU = Second Usage.

Art.	TETs														Total														
	ML	P3P	PPL	DT	PI	PRA	GPD	PDT	DM	MMS	EuroPriSe	PS	GD	PEv		TAMI	PTT	PVA	PB	AMI	TArc	openPDS	Digi.me	MD	PeS	Mee	BB	UP	
5.1.(a)																													0
5.2		x	x	x	x		x	x		x	x		x	x	x	x					x	x	x	x	x	x			19
6.1.(a)				x	x		x	x					x									x	x	x	x				10
7.1																													0
7.2																													0
7.3				x	x		x	x					x									x	x	x	x	x			10
9.2.(a)																									x*				1
11.2																													0
12.1																													0
12.3																													0
12.4																													0
12.7																													0
13.1.(a)																											x		1
13.1.(b)																											x		1
13.1.(c)		x	x							x																	x		4
13.1.(d)		x	x																										2
13.1.(e)		x	x																										2
13.1.(f)										x											x						x		3
13.2.(a)																													0
13.2.(b)		x	x																										2
13.2.(c)		x	x																										2
13.2.(d)																													0
13.2.(e)																													0
13.2.(f)																													0
13.3																													0
14.1.(a)																											x		1
14.1.(b)																											x		1
14.1.(c)		x	x							x																	x		4

References

- [Spagnuolo et al., 2019] Spagnuolo, D., Ferreira, A., and Lenzini, G. (2019). Accomplishing transparency within the general data protection regulation. In *ICISSP*. **To appear**.
- [Zimmermann, 2015] Zimmermann, C. (2015). A categorization of Transparency-Enhancing Technologies. *arXiv preprint arXiv:1507.04914*.