

ISO/IEC 20547-3:2020-03 (E)

Information technology - Big data reference architecture - Part 3: Reference architecture

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Abbreviated terms	4
5	Conventions	5
6	Big data reference architecture concepts	5
6.1	General	5
6.2	Views	6
6.3	Overview of user view	6
6.4	Overview of functional view	7
6.5	Relationship between the user view and the functional view	8
6.6	Relationship of the user view and functional view to cross-cutting aspects	8
7	User view	9
7.1	Big data roles, sub-roles, and activities	9
7.2	Role: Big data application provider (BDAP)	10
7.2.1	General	10
7.2.2	Sub-role: big data collection provider (BDCP)	11
7.2.3	Sub-role: big data preparation provider (BDPreP)	11
7.2.4	Sub-role: big data analytics provider (BDAnP)	12
7.2.5	Sub-role: big data visualization provider (BDVP)	12
7.2.6	Sub-role: big data access provider (BDAcP)	12
7.3	Role: big data framework provider (BDFP)	12
7.3.1	General	12
7.3.2	Sub-role: big data infrastructure provider (BDIP)	13
7.3.3	Sub-role: big data platform provider (BDPlaP)	13
7.3.4	Sub-role: big data processing provider (BDProP)	13
7.4	Role: big data service partner (BDSP)	14
7.4.1	General	14
7.4.2	Sub-role: big data service developer (BDSD)	15
7.4.3	Sub-role: big data auditor (BDA)	15
7.4.4	Sub-role: big data system orchestrator (BDSO)	15
7.5	Role: big data provider (BDP)	16
7.6	Role: big data consumer (BDC)	16
8	Cross-cutting aspects	17
8.1	General	17
8.2	Security and privacy	17
8.3	Management	17
8.4	Data governance	18
9	Functional view	18

9.1	Functional architecture	18
9.1.1	General	18
9.1.2	Layering architecture	19
9.1.3	Multi-layer functions	20
9.2	Functional components	20
9.2.1	General	20
9.2.2	Big data application layer functional components	21
9.2.3	Big data processing layer functional components	23
9.2.4	Big data platform layer functional components	25
9.2.5	Resource layer functional components	28
9.2.6	Multi-layer functional components	29
Annex A (informative)	Mapping big data RA functional view to other system integration RA	33
Annex B (informative)	Examples of the relationship of roles in big data ecosystem	34
Annex C (informative)	35
Bibliography	37