

SAP SE: Portfolio Report

Introduction

SAP SE is a German-based enterprise application software and service provider. The Company mainly operates through two segments - Applications, Technology & Services segment, and the SAP Business Network segment. The Applications, Technology & Services segment is primarily engaged in the support and implementation services of its products, such as the software licenses, cloud applications and related services. The SAP Business Network segment includes its cloud-based collaborative business networks and services. ^[1]

SAP has shown a consistent growth over the years and in 2017, it was among one of the most valuable technology brands worldwide, with the value of the brand estimated at 55.37 billion USD globally. ^[2] The Cloud-based enterprise applications are SAP's largest revenue generator and the company is now investing in machine learning technologies to provide end-to-end connections between business processes and applications. ^[3]

In an effort to bring advanced intelligence to its customers, SAP intends to offer a robot infrastructure to the customers. The company plans to attain this by expanding its product portfolio to include RPA (Robotic Process Automation), machine learning and conversational AI in a single end-to-end automation stack. This will help SAP automate redundant processes across its portfolio. ^[4]

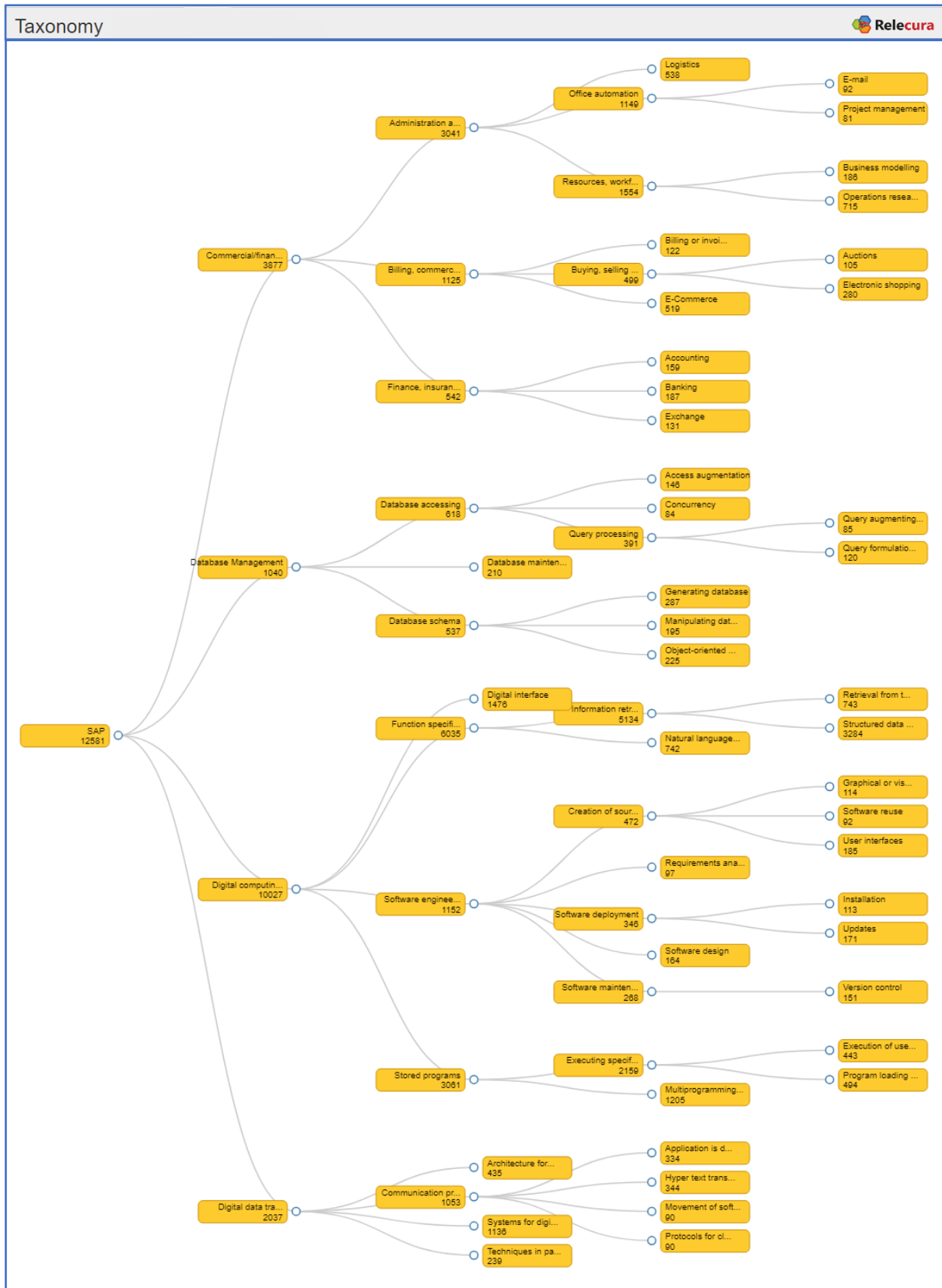
In this report, we take a closer look at the patent assets held by SAP that are currently in force. The report presents technology trends related to SAP's patent portfolio. It includes a portfolio taxonomy and provides insights into various aspects of the overall portfolio.

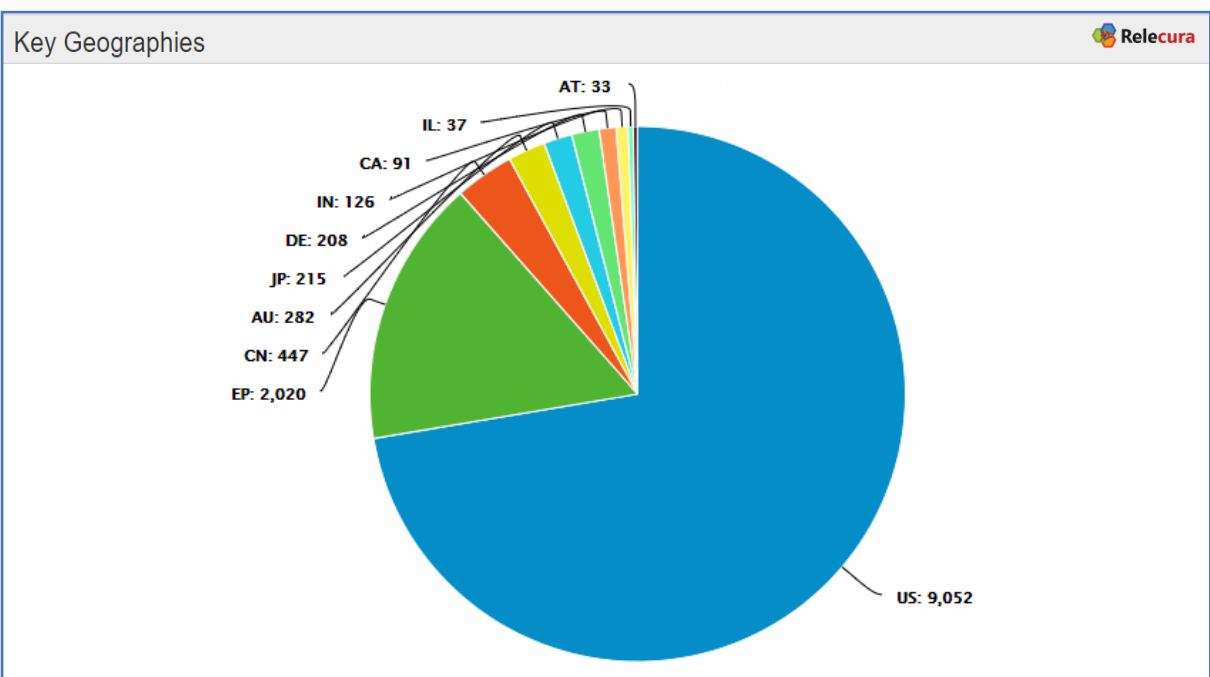
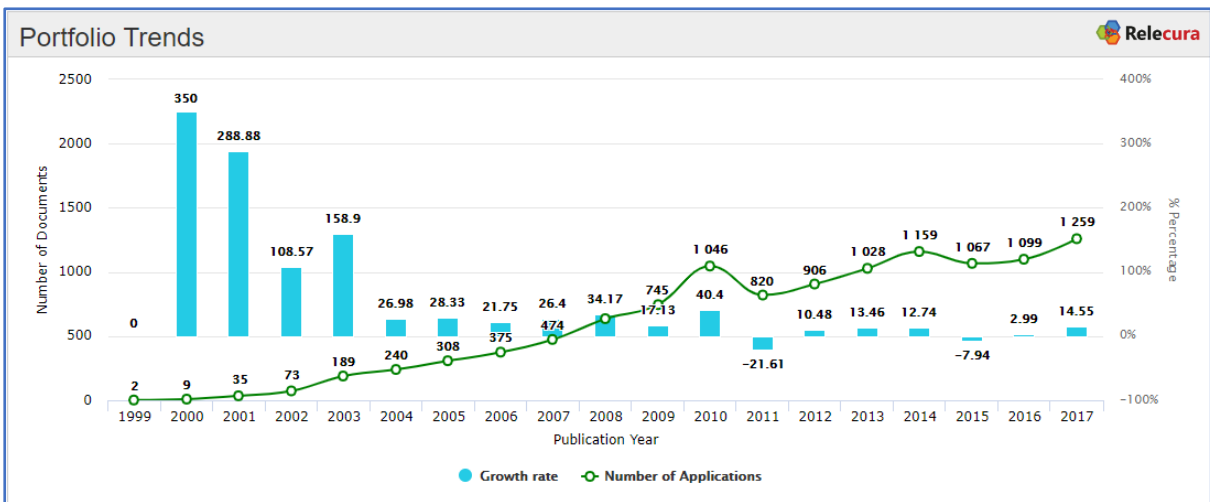
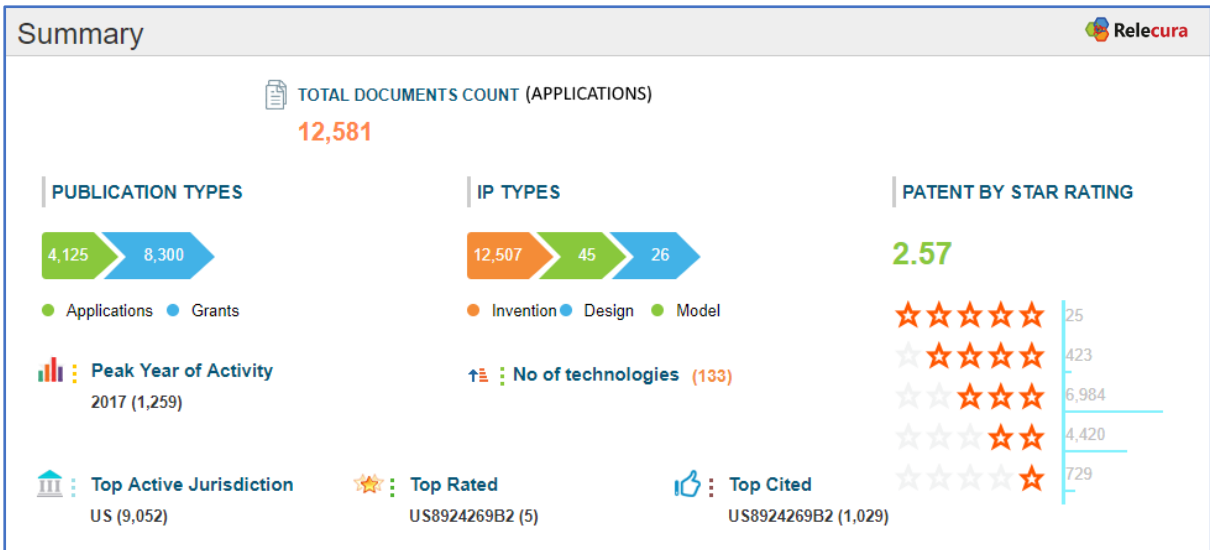
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Sources


1. [SAP SE](https://en.wikipedia.org/wiki/SAP) (wikipedia.org)
2. [SAP SE - Statistics & Facts](https://www.statista.com/statistics/448281/sap-revenue/) (statista.com)
3. [Cloud Business Continues To Boost SAP's 3Q'18 Earnings](https://www.forbes.com/sites/forbesreuters/2018/07/26/cloud-business-continues-to-boost-saps-3q-18-earnings/) (forbes.com)
4. [SAP wants to bring together automation, machine learning and artificial intelligence in a single stack](https://www.computing.co.uk/news/2018/07/26/sap-wants-to-bring-together-automation-machine-learning-and-artificial-intelligence-in-a-single-stack/) (computing.co.uk)

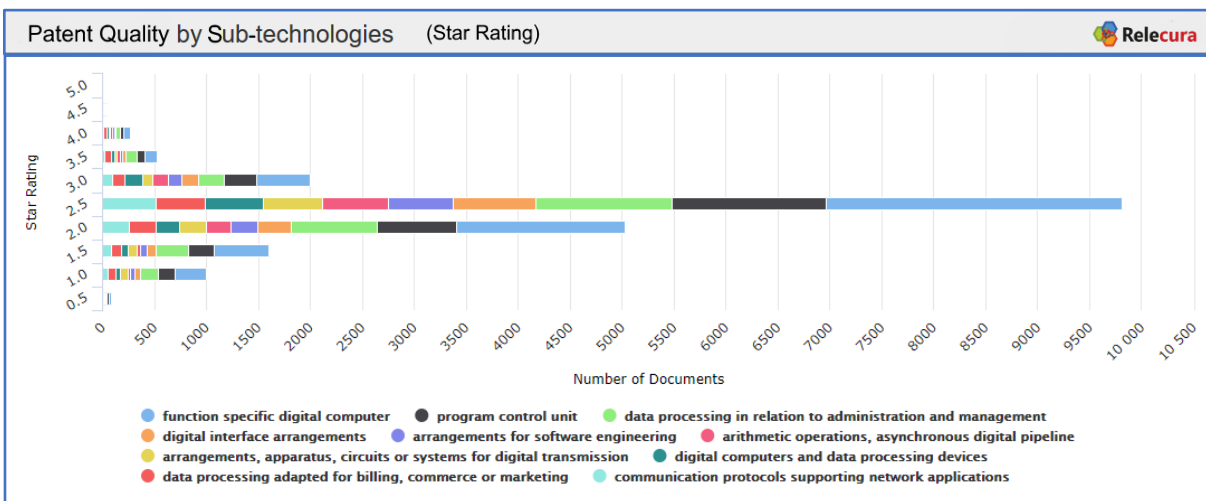
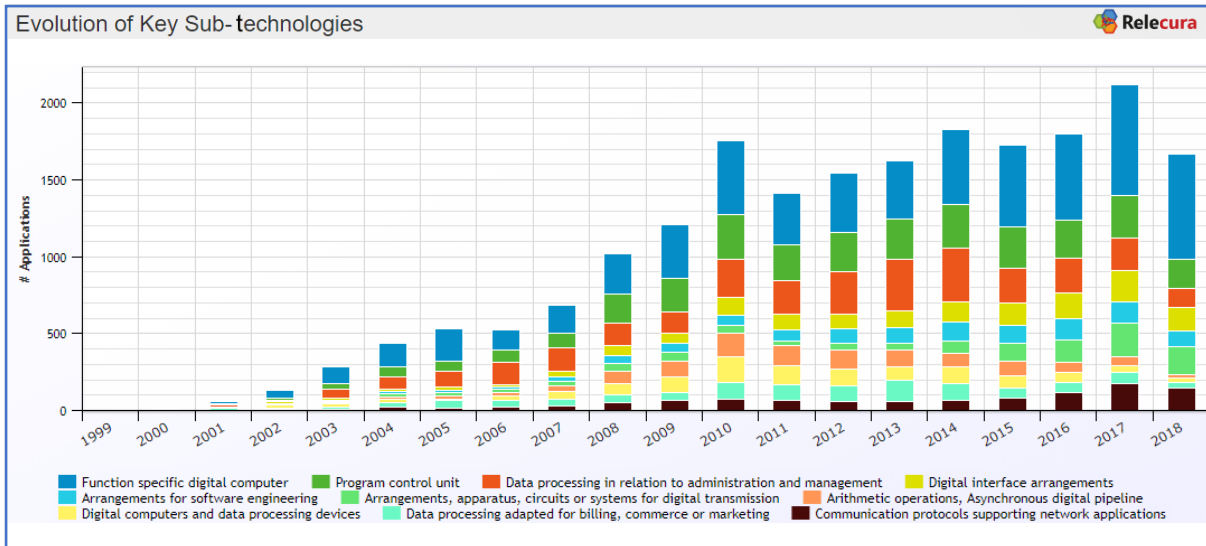




Key Technologies		
Technologies	# Applications	
Digital Data Processing	10022	
Data Processing Systems	3877	
Data Transmission	2036	
Greentech - Others	1040	
Wireless Communication Networks	400	
Computer Systems (Using Computational Models)	304	
Data Presentation	221	
Image Data Processing	214	
Telephonic Communication	210	
Displays (Circuits)	132	

Analysis of Key Technologies				
Technologies	Applications	Grants	Sub Technologies	Geographies
digital data processing	3002	6889	function specific digital computer (6033) , program control unit (3089) , data processing in relation to administration and management (1848) , digital interface arrangements (1476) , arrangements for software engineering (1152)	US (7448) , EP (1506) , CN (340) , AU (212) , DE (152)
data processing systems	1537	2309	data processing in relation to administration and management (3041) , function specific digital computer (1288) , data processing adapted for billing, commerce or marketing (1125) , program control unit (550) , data processing adapted for finance, insurance, tax strategies (542)	US (2716) , EP (704) , CN (126) , AU (114) , JP (113)
data transmission	572	1432	arrangements, apparatus, circuits or systems for digital transmission (1133) , communication protocols supporting network applications (1053) , function specific digital computer (567) , data switching networks (490) , digital computers and data processing devices (440)	US (1399) , EP (330) , CN (115) , DE (68) , AU (38)
greentech - others	133	893	data processing - database and file management or data structures (1013) , function specific digital computer (927) , arithmetic operations, asynchronous digital pipeline (307) , program control unit (177) , data processing in relation to administration and management (160)	US (747) , EP (154) , AU (49) , DE (30) , JP (19)
wireless communication networks	93	294	providing wireless communication services to user via network (291) , arrangements, apparatus, circuits or systems for digital transmission (151) , communication protocols supporting network applications (140) , data switching networks (101) , security arrangements, authentication, protecting privacy for wireless communication (84)	US (255) , EP (72) , CN (37) , CA (9) , DE (8)

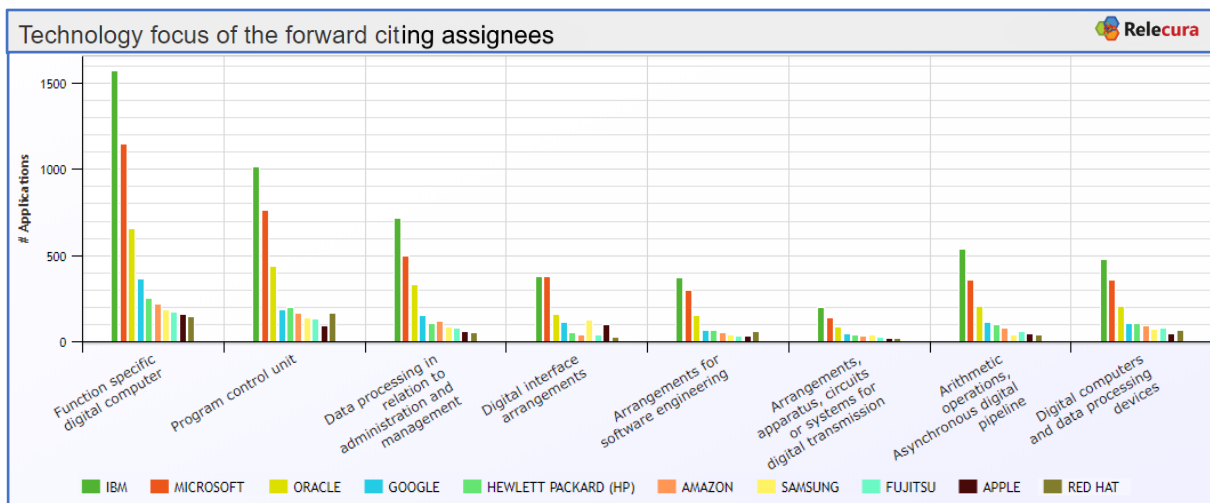
Key Sub-technologies		
Sub-Technologies	# Applications	
Function specific digital computer	6032	
Program control unit	3087	
Data processing in relation to administration and management	3041	
Digital interface arrangements	1476	
Arrangements for software engineering	1152	
Arrangements, apparatus, circuits or systems for digital transmission	1136	
Arithmetic operations, Asynchronous digital pipeline	1135	
Digital computers and data processing devices	1129	
Data processing adapted for billing, commerce or marketing	1125	
Communication protocols supporting network applications	1053	



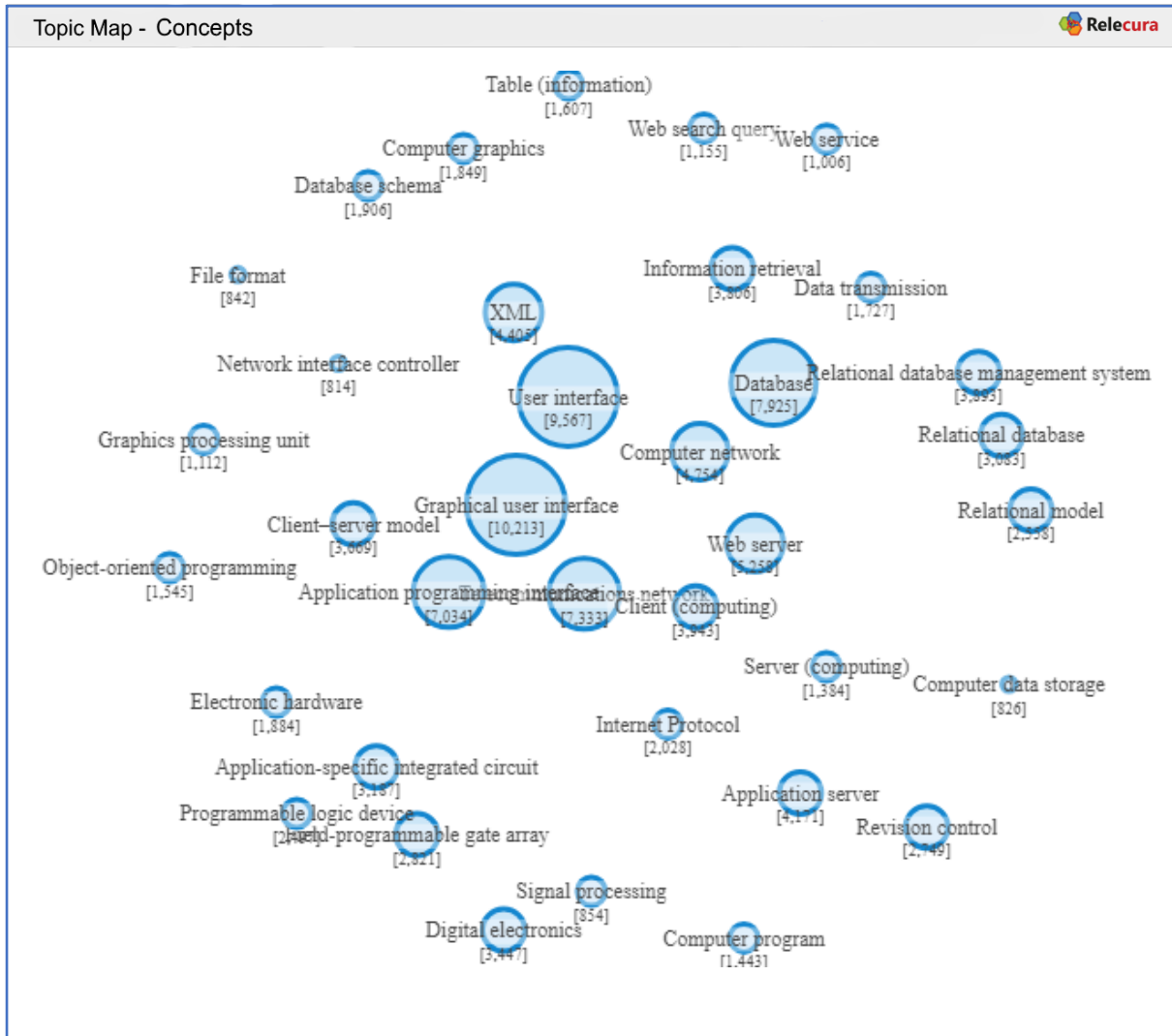
Key patents in portfolio

Publication No.	Title	Filing Date	Star Rating	#Fwd Citations
US8924269B2	Consistent set of interfaces derived from a business object model	2007-05-11	5.0	1029
US8655756B2	Consistent set of interfaces derived from a business object model	2005-06-03	4.5	162
US8744937B2	Consistent set of interfaces derived from a business object model	2006-02-27	4.5	268
US8694397B2	Consistent set of interfaces derived from a business object model	2005-06-17	4.5	180
US7969306B2	Context-aware and real-time item tracking system architecture and scenarios	2003-01-10	4.5	501
US8126870B2	System and methodology for parallel query optimization using semantic-based partitioning	2005-06-02	4.5	321
US8117555B2	Cooperating widgets	2007-10-04	4.5	104
US8566193B2	Consistent set of interfaces derived from a business object model	2006-12-15	4.5	124
US7162543B2	Process for synchronizing data between remotely located devices and a central computer system	2002-06-05	4.5	223

Top Forward Citing Assignees	
FC Assignees	# Applications
IBM	3210
MICROSOFT	2367
ORACLE	1333
GOOGLE	737
HEWLETT PACKARD (HP)	584
SAMSUNG	513
AMAZON	508
FUJITSU	405
RED HAT	358
APPLE	354



Key patent acquisitions		
Seller	# Applications	Technologies
IBM	247	digital data processing (244), greentech - others (144), data transmission (27), data processing systems (14), data presentation (8)
BUSINESS OBJECTS	39	digital data processing (56), greentech - others (14), data processing systems (8), image data processing (5), displays(circuits) (3)
AVANTGO	17	data transmission (17), digital data processing (17), wireless communication networks (16), telephonic communication (2), data processing systems (1)
FREEMARKETS	27	data processing systems (23), digital data processing (5), coders & decoders (2), speech synthesis (1)
MELLMO	16	digital data processing (15), image data processing (6), greentech - others (4), data processing systems (2), displays(circuits) (2)
MOBILE 365	16	wireless communication networks (20), data transmission (10), data processing systems (6), digital data processing (6), telephonic communication (6)
SYBASE	16	digital data processing (15), greentech - others (8), data transmission (3), signalling & alarming systems (1)
DEJIMA	10	digital data processing (8), computer systems (using computational models) (6), displays(circuits) (5), speech synthesis (2)



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