						file type							graph types					attributes							general						Performance				
Graph Format	**File Suffix**	**Full Name**	Web Reference	reference time frame	contacts	binary/text	representation	structure	single or multiple file	must be ordered	integral metadata	built in compression	directed/undirected/mixed	multi-graph	hyper-graph	hierarchy	meta-graph	edge weights	multiple attributes	default values	multiple inheritance	visualisation data	ports	temporal data/dynamics	extensible	schema checking	checksums	external data references	multiple graphs	incremental specifications	file size (native)	file size (after gzip)	read	write	**comments**
Adj (simple edge list	.adj, .csv, tsv	simple edge list (could be CSV, TSV, Excel, ...)			N/A	ascii	edge	simple	either	yes	comn	no	either	no	no	no	no	ma	no	no	no	no	no	no	no	no	no	no	no	no					Generic format including most "trivial" edge-list formats
bintsv4	. bintsv4	bintsv4 (GraphLab)	http://docs.graphlab.org/graph_formats.h	2009-2014		binary	edge	simple	single	yes	no	no	directe	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no					
BLAG, GDToolkit	.gdt, .exp	Batch layout generator (GDToolkit)	http://www.dia.uniroma3.it/~gdt/gdt4/bla	--2008	gdt@dia.uniroma3.it	ascii	neighb	grammar	multiple	yes	yes	no	either	no	no	yes	no	no	no	no	no	yes	no	no	no	no	no	no	no	no					
BVGraph	.graph, .prop	Boldi-Vigna graph compression	http://webgraph.di.unimi.it/docs/it/unimi/dsi/web		mithandor@gmail.com	binary/a	neighb	simple	multiple	yes	no	yes																							
Chaco		Chaco graph format	http://www.sandia.gov/~bahendr/papers/guide.ps		bahendr@sandia.gov, leland@cs.sandia.g	ascii	neighb	simple	multiple	no	comn	no	unspect	unspec	no	no	no	yes	no	no	no	yes	no	no	no	no	no	no	no	no					
CGO		Eades amd Kelly, but through KrackPlot	http://www.andrew.cmu.edu/user/krack/documen		krack@cmu.edu	ascii	neighb	simple	single	no	no	no	directe	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no					
Cypher		Neo4j graph database query language	http://neo4j.com/developer/cypher-query-languag		info@neotechnology.com	ascii	edge/n	BNF	single?	no	yes																								
DGS		Dynamic GraphStream Format	http://graphstream-project.org/doc/Advar	2010-13		UTF-8	edge	intermedi	single or	yes	no	no	mixed	unspec	no	no	no	yes	?	no	no	no	no	yes	no	no	no	no	no	no					
DGML	.dgml	Directed Graph Markup Language	http://en.wikipedia.org/wiki/DGML, http://schemas.microsoft.com/vs/2009/dgml/			unicode	edge	XML	single	no	yes	no	unspect	unspec	no	no	no	yes	yes	yes	yes	yes	no	no	no	yes	no	no	no	no					
DIMACS	multiple	DIMACS graph format	http://www.dis.uniroma1.it/challenge9/format.sht		dimacs-ch9@dis.uniroma1.it	ascii	edge/p	simple	multiple	no	limite	no	either	yes	no	no	no	yes	no	no	no	yes	no	no	no	no	yes	no	yes	no					
Dot	.dot	GraphVis Dot Language	http://www.graphviz.org/content/dot-language			ascii	edge	grammar	single	no	yes	no	mixed	yes	yes	yes	no	yes	yes	yes	no	yes	yes	no	no	yes	no	no	no	no					GraphViz native format
DotML		Dot Markup Language	http://martin-loetzsch.de/DOTML/		martin.loetzsch@gmail.com	unicode	edge	XML	single	no	yes	no	mixed	yes	yes	yes	no	yes	yes	yes	no	yes	yes	no	no	no	no	no	no	no					XMLified Dot
DyNetML		DyNetML XML	http://www.casos.cs.cmu.edu/projects/dynetml/		casos@cmu.edu	unicode	edge	XML	single	no	yes	no	directe	unspec	no	no	no	yes	yes	?	?	?	no	yes	no	yes	no	no	yes	no					
GAMFF		A Graph and Matrix Format	http://www.nas.nasa.gov/Software/GAMF	1995		ascii	smatri	BNF	single	yes	comn	no	either	unspec	yes	no	no	yes	yes	no	no	no	no	no	no	no	no	no	no	no					Extends Harwell-Boeing
GDF	.gdf	Guess Data Format	http://guess.wikispot.org/The_GUESS_.gdf_forma		eadar@umich.edu	ascii	edge	intermedi	single	no	no	no	unspeci	unspec	no	no	no	yes	yes	no	no	yes	no	no	yes	no	no	no	no	no					
GDL	.gdl	Graph Description Language	http://netwiki.amath.unc.edu/DataForma	1995 --	Georg Sander <sander@cs.uni-sb.de>	ascii	edge	BNF	single	no	yes	no	directe	unspec	no	no	no	yes	yes	yes	no	yes	no	no	no	no	no	no	no	no					Also called VCG, due to use in that tool
GEDCOM		Geneaological data	http://homepages.rootsweb.ancestry.com/~pmcb		gedcom@gedcom.org	unicode	neighb	grammar	single	yes	yes	no	directe	unspec	no	no	no	no	yes	no	no	no	no	no	yes	?	no	yes	no	no					
GEXF	.gexf	Graph Exchange XML Format	http://gexf.net/format/		contact@gexf.net	unicode	edge	XML	single	no	yes	no	mixed	unspec	no	yes	no	yes	yes	yes	yes	yes	no	yes	yes	yes	no	yes	no	no					
GML	.gml	Graph Modelling Language	http://www.fim.uni-passau.de/index.php?id=1729		himsolt@fmi.uni-passau.de	ISO 885	edge	BNF	single	no	yes	no	either	unspec	no	no	no	yes	yes	no	no	yes	no	no	no	?	no	no	no	no					
Graph6/Sparse6	.g6, .s6		http://cs.anu.edu.au/~bdm/data/formats.txt, http		bdm@cs.anu.edu.au	coded a	matrix	simple	single	yes	no	limited	undirec	loops c	no	no	no	no	no	no	no	no	no	no	no	no	no	no	yes	yes					
Graph::Easy		Perl Graph::Easy format	http://bloodgate.com/perl/graph/manual/		nospam-abuse@bloodgate.com	ascii	edge/n	intermedi	single	no	yes	no	mixed	yes	yes	yes	no	yes	yes	no	no	yes	no	no	no	no	no	no	no	no					
GraphEd	.g	GraphEd simple format	http://www3.cs.stonybrook.edu/~algorith/implem		brandenb@fmi.uni-passau.de	ascii	neighb	BNF	single	no	no	no	unspeci	yes	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no					
GraphJSON			http://www.graphjson.org/			UTF-8	edge	JSON	single	no	no	no	mixed	unspec	no	no	no	yes	yes	yes	yes	yes	no	no	no	yes	no	no	no	no					
GraphML	.graphml	Graph Markup Language	http://graphml.graphdrawing.org/primer/	2000 --	ulrik.brandes@uni-konstanz.de, mk@infor	unicode	edge	XML	single	no	yes	no	mixed	yes	yes	yes	no	yes	yes	yes	no	yes	yes	no	yes	yes	no	yes	no	no					
GraphLab		GraphLab binary and graphjrl formats	http://docs.graphlab.org/graph_formats.html			binary	?	simple	single	yes	yes	no	directe	?	?	?	no	?	?	no	no	no	no	no	no	no	no	no	no	no					
GraphSON		TinkerPop's JSON-based Graph format	https://github.com/tinkerpop/blueprints/wiki/GraphSON-Reader-and-Writer-Library			UTF-8	edge	JSON	single	no	yes	no	directe	unspec	no	no	no	yes	yes	no	no	no	no	no	yes	yes	no	no	no	no					
GraphXML		XML-Based Graph Description Language	http://link.springer.com/chapter/10.1007%	1998	i.herman@cwi.nl, m.s.marshall@cwi.nl	unicode	edge	XML	single	no	yes	no	either	unspec	no	yes	no	yes	yes	no	no	yes	no	yes	yes	yes	no	yes	yes	no					
GRXL		XML Specification for Grrr Program	http://www.user.tu-berlin.de/o.runge/tfs/projekte/		P.J.Rodgers@kent.ac.uk	unicode	edge	XML	single	no	yes	no	directe	unspec	no	no	no	yes	yes	yes	no	yes	no	no	yes	yes	no	no	no	no					
GT-ITM	.alt	Georgia Tech Internetwork Topology Models Alt F	http://www.cc.gatech.edu/fac/Ellen.Zegur	1996 --	ewz@cc.gatech.edu	ascii	edge	simple	single	yes	no	no	undirec	no	no	no	no	yes	yes	no	no	trar	no	no	no	no	no	no	no	no					
Guess	.gdf	GUESS GDF	http://guess.wikispot.org/The_GUESS_.gd	?-2010		ascii	edge	intermedi	single	yes	no	no	mixed	unspec	no	no	no	yes	yes	no	no	yes	no	no	no	no	no	no	no	no					
GXL		Graph eXchange Language	http://en.wikipedia.org/wiki/GXL, http://w	2000-2	winter@uni-koblenz.de, kullbach@uni-kol	unicode	edge	XML	single	no	yes	no	mixed	unspec	yes	yes	no	yes	yes	no	no	no	no	no	yes	yes	no	yes	no	no					
Harwell-Boeing		Harwell-Boeing sparse (adjaceny) matri	http://people.sc.fsu.edu/~jburkardt/data/	1992-2010		ascii	smatri	simple	single	yes	no	no	directe	no	no	no	no	yes	no	no	no	no	no	no	no	no	no	no	no	no					
Inet		Inet Topology Generator file	http://topology.eecs.umich.edu/inet/		jwinick@eecs.umich.edu, jamin@eecs.um	ascii	edge	simple	single	yes	no	no	undirec	no	no	no	no	yes	no	no	no	loc	no	no	no	no	no	no	no	no					
JSON(simple)	.json	JSON Tree or Graph	http://philogb.github.io/jit/static/v20/Docs/files/Loader/Loader-js.html			ascii	edge	JSON	single	no	no	no	directe	unspec	no	no	no	yes	no	no	no	no	no	no	no	no	no	no	no	no					
LEDA	.gw, .lgr	LEDA format	http://www.algorithmic-solutions.info/leda_guide		support@algorithmic-solutions.com	ascii	edge	simple	single	yes	no	no	either	unspec	no	no	no	yes	yes	no	no	no	no	no	no	no	no	no	no	no					
LGF		LEMON Graph Format	http://lemon.cs.elte.hu/pub/doc/1.2.3/a00002.htm		frank@cs.elte.hu	ascii	edge	intermedi	single	no	yes	no	either	unspec	no	no	no	yes	yes	no	no	no	no	no	no	no	no	no	no	no					
LGL	.lgl	Large Graph Layout	http://lgl.sourceforge.net/	2003-2	alex.adai@ucsf.edu, marcotte@icmb.utex	ascii	neighb	simple	single	no	no	no	undirec	unspec	no	no	no	yes	no	no	no	no	no	no	no	no	no	no	no	no					
LibSea		Caida LibSea format	http://www.caida.org/tools/visualization/l	2000-2	youngh@caida.org	ascii	edge/p	BNF	single	yes	yes	no	directe	unspec	no	no	no	yes	yes	yes	no	yes	no	no	no	?	no	no	?	no					CAIDA's Walrus/LibSea graph format
KrackPlot	.kp	KrackPlot data format	http://www.andrew.cmu.edu/user/krack/documen		krack+@cmu.edu	ascii	matrix	simple	single	no	no	no	directe	no	no	no	no	no	no	no	no	lim	no	no	no	no	no	no	no	no					
Matlab	.mat	Matlab saved workspace including a sparse (adjacency) matrix				binary	matrix	?	single	yes	yes	no	directe	no	no	no	no	yes	alm	no	no	no	no	no	no	no	no	no	no	no					
Matrix	.mtx	Matrix Market sparse (adjacency) matrix	http://math.nist.gov/MatrixMarket/formats.html		matrixmarket@nist.gov	ascii	smatri	simple	single	no	comn	no	either	no	no	no	no	yes	no	no	no	no	no	no	no	no	no	no	no	no					
Mivia	.gtr	Mivia ARG database format	http://mivia.unisa.it/datasets/graph-database/arg		mivia@unisa.it	ascii or	edge	simple	single	no	comn	no	directe	unspec	no	no	no	yes	no	no	no	no	no	no	no	no	no	no	no	no					
MultiNet			http://www.sfu.ca/personal/archives/richards/Pag		richards@sfu.ca	ascii	edge/n	intermedi	multiple	yes	no	no	unspeci	unspec	no	no	no	yes	yes	no	no	no	no	no	no	no	no	no	no	no					
Netdraw VNA	.vna	Netdraw VNA	http://www.analytictech.com/Netdraw/NetdrawG		steve@analytictech.com	ascii	edge	simple	single	yes	no	no	directe	unspec	no	no	no	yes	yes	no	no	no	no	no	no	no	no	no	no	no					
NetML		Network Markup Language	http://vlado.fmf.uni-lj.si/pub/networks/ne	1995	vladimir.batagelj@uni-lj.si, andrej.mrvar@	unicode	edge/c	SGML	single	yes	yes	no	either	unspec	no	yes	no	yes	yes	yes	no	yes	no	no	no	yes	no	no	yes	yes					
Ncol	.ncol	Large Graph Layout	http://lgl.sourceforge.net/, http://cneuroc	2003-2005		ascii	edge	simple	single	no	no	no	undirec	no	no	no	no	yes	no	no	no	no	no	no	no	no	no	no	no	no					
NNF	.nnf	Nested Network Format	http://wiki.cytoscape.org/Cytoscape_User_Manual/Network_Formats			ascii	edge	simple	single	no	no	no	either	no	no	yes	no	no	no	no	no	no	no	no	no	no	no	no	no	no					
Nod		KrackPlot Node format	http://www.andrew.cmu.edu/user/krack/documents/krackplot_manual.doc			ascii	neighb	simple	single	yes	no	no	directe	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no					
NOS	.nos	Neo Org Stat format	http://svitsrv25.epfl.ch/R-doc/library/sna/l	legacy	buttsc@uci.edu	ascii	matrix	simple	single	yes	no	no	directe	no	no	no	no	yes	no	no	no	no	no	no	no	no	no	no	yes	no					
ns-tcl	.tcl	ns-2 Tcl network definition	http://www.isi.edu/nsnam/ns/doc/index.html			ascii	edge/p	Tcl	either	yes	no	no	directe	yes	yes	yes	no	yes	yes	no	no	yes	yes	yes	yes	no	no	no	no	no					
OGDL		Ordered Graph Data Language	http://ogdl.org/spec/	2002 --	rolf.veen@gmail.com	ascii an	edge/p	BNF	either	yes	comn	no	directe	unspec	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no					
OGML	.ogml	Open Graph Markup Language	http://www.ogdf.net/lib/exe/fetch.php/doc	2012-1	scientific@ogdf.net	unicode	edge	XML	single	no	yes	no	directe	unspec	yes	no	no	?	?	no	no	yes	yes	no	no	no	no	no	no	no					
Otter		Otter's native format	http://www.caida.org/tools/visualization/	1999	bhuffake@caida.org	ascii	edge	intermedi	single	yes	yes	no	mixed	unspec	no	no	no	no	yes	no	no	yes	no	no	no	no	no	no	no	no					
Pajek	.net	Pajek Tool's native format	http://pajek.imfm.si/doku.php?id=pajek,	1996-2	vladimir.batagelj@uni-lj.si, andrej.mrvar@	ascii	edge/n	intermedi	single	yes	comn	no	mixed	unspec	no	no	no	yes	yes	no	no	yes	no	yes	no	no	no	no	no	no					Evolution of NetML???
Planar	.pl		http://hog.grinvin.org/Formats.action			binary	neighb	simple	single	yes	no	no	directe	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no					
PSI MI		Protenomics Standards Initiative Molecular Inte	http://psidev.sourceforge.net/molecular_interactions//xml/doc/user/			unicode	edge	XML	either	no	yes	no	unspeci	no	yes	no	no	yes	yes	?	?	no	no	no	yes	yes	no	yes	no	no					
Rocketfuel		Rocketfuel ISP Maps	http://www.cs.washington.edu/research/	2002 -- 3		ascii	edge/p	intermedi	multiple	no	no	no	undirec	no	no	yes	no	yes	no	no	no	yes	no	no	no	no	no	no	yes	no					Only used for Rocketfuel project, actually several different formats
Rutherford-Boeing	.mtx.rb	Rutherford-Boeing sparse (adjaceny) matri	http://math.nist.gov/MatrixMarket/forma	1997	roger.g.grimes@boeing.com, john.g.lewis	ascii	smatri	intermedi	multiple	yes	yes	limited	either	no	no	no	no	yes	no	no	no	no	no	no	no	no	yes	no	no	no					Extends Harwell-Boeing
SGB	.gb	Stanford GraphBase	http://people.sc.fsu.edu/~jburkardt/datas	1992--		ascii	edge/n	?	single	yes	comn	no	unspeci	unspec	no	no	no	yes	yes	no	no	no	no	no	no	?	yes	no	no	no					Documentation in a book which I don't have
SGF		Structured Graph Format	http://xml.coverpages.org/sgf.html, http:/	1998 --	robin@oasis-open.org	unicode	edge	XML	single	no	yes	no	directe	unspec	no	yes	no	yes	yes	no	no	no	no	no	no	yes	no	no	no	no					
S-Dot		S-Dot (lisp interface to Graphviz)	http://martin-loetzsch.de/S-DOT/		martin.loetzsch@gmail.com	ascii	edge/p	lisp	single	no	yes	no	mixed	yes	yes	yes	no	yes	yes	yes	no	yes	yes	no	no	yes	no	no	no	no					Lisp-ified Dot
SIF	.sif	Simple Interaction Format	http://wiki.cytoscape.org/Cytoscape_User_Manual/Network_Formats			ascii (U	edge/n	simple	single	no	no	no	mixed	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no					
SNAP		Stanford Large Network Dataset Collection	http://docs.graphlab.org/graph_formats.html#gra		jure@cs.stanford.edu.	ascii	edge	simple	single	no	comn	no	either	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no					
SoNIA	.son	So NIA Son format	http://sourceforge.net/p/sonia/wiki/Son_f	2002 --	skyebend@stanford.edu, mcfarland@star	ascii	edge	intermedi	single	yes	comn	no	directe	unspec	no	yes	no	yes	yes	no	no	yes	no	yes	no	no	no	no	no	no					
TEI		Text Encoding Initiative Graph Format	http://www.tei-c.org/Vault/P4/doc/html/GI	2001 --	web@tei-c.org	unicode	edge	XML	single	no	yes	no	either o	unspec	no	no	no	yes	yes	no	no	no	no	no	no	yes	no	no	no	no					Part of larger TEI initiative
TGF		Trivial Graph Format	http://en.wikipedia.org/wiki/Trivial_Graph_Format			ascii	edge	simple	single	yes	no	no	either	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no					
Tulip TLP	.tlp	Tulip graph format	http://tulip.labri.fr/TulipDrupal/?q=tlp-file-format		david.auber@labri.fr	ascii	edge	BNF	single	no	yes	no	directe	unspec	no	yes	no	yes	yes	yes	no	no	no	no	no	no	no	no	no	no					
UCINET DL	.dat	UCINET Data Language	http://www.analytictech.com/networks/dataentry		info@analytictech.com, steve.borgatti@g	ascii	neighb	intermedi	single	yes	no	no	directe	no	no	no	no	yes	no	no	no	no	no	no	no	no	no	no	no	no					
XGMML		eXtensible Graph Markup and Modeling Languag	http://cgi7.cs.rpi.edu/research/groups/pb/	2000-2	puninj@cs.rpi.edu, moorthy@cs.rpi.edu	unicode	edge	XML	single	no	yes	no	either	unspec	no	no	no	yes	yes	no	no	no	no	no	no	yes	no	no	no	no					XMLified GML
XMLBIF		XML-based BayesNets Interchange Format	http://www.cs.cmu.edu/~fgcozman/Rese	1998		unicode	neighb	XML	single	no	yes	no	DAG	no	no	no	no	yes	no	no	no	no	no	no	no	yes	no	no	no	no					For Bayesian networks, so edges are relationships expressing conditional probabilities
XTND		XML Transition Network Definition	http://www.w3.org/TR/2000/NOTE-xtnd-20	2000		unicode	edge	XML	single	no	comn	no	directe	unspec	no	no	no	no	yes	no	no	no	no	no	no	no	no	no	no	no					
YGF	.ygf	Y Graph Format	http://docs.yworks.com/yfiles/doc/develo	2004-1	contact@yWorks.com	binary	?	?	single	?	?	?	?	?																					

More sources

http://netwiki.amath.unc.edu/DataFormats/Form porterm@maths.ox.ac.uk,mucha@unc.edu
http://vlado.fmf.uni-lj.si/vlado/vladonet.htm

Formats for which we could not find a specification	**mentioned in**
Tom Sawyer format	GML documentation http://www.fim.uni-passau.de/index.php?id=17297&L=1
gem3Ddraw	http://netwiki.amath.unc.edu/DataFormats/Formats
GraX	http://www.gupro.de/GXL/Introduction/background.html
PROGRESS graph rewriting system	http://www.gupro.de/GXL/Introduction/background.html
GTXL	http://www.gupro.de/GXL/Introduction/background.html
GedML: Genealogical Data in XML	http://homepage.ntlworld.com/michael.h.kay/gedml/index.html
UXF	http://vlado.fmf.uni-lj.si/vlado/vladonet.htm
graphjrl	http://docs.graphlab.org/graph_formats.html