STATION e-TRANSFER RATE CHART

Thursday, June 17, 2021

Cynthia Thomas, NVI, Inc.

	Input	Tested	Storage	Mark5	Mark6	DiFx	DiFx VGOS	HOPS	NuSolve					Correlator	Sessions
CORRELATORS	**Rate**	**Rate**	**Capacity**	**Units (#)**	**Units (#)**	**Ver(s)**	**Ver(s)**	**Ver**	**Ver**				**Comments**	**Contact Information**	**Processed**
Bonn	2 X 1 Gbps	1 Gbps	2.1 PB	14	11	2.6.1	2.5.3	3.21	0.7.2				**Testing DiFX-2.5.0 and DiFX-2.6.0 for (EU-)VGOS correlation**	Simone Bernhart - simone@mpifr-bonn.mpg.de	R1, T2, OHIG, EVGOS, VO, INT3
GSI	10 Gbps	not tested	513 TB	N/A	N/A	2.6.2	2.5.2	3.21	0.6.3				**K5/VSSP software is mainly used for correlation.**	gsi-1_oper@nyb.mlit.go.jp	AOV, INT2
Haystack	10 Gbps	10 Gbps	172 TB	0	14	N/A	2.5.3-1	3.23	0.7					Jason SooHoo - etransfer@haystack.mit.edu	R&D, VO
Onsala	10 Gbps	5-10 Gbps	500 TB	N/A	N/A	2.6.2	2.6.2	3.21	0.7.3				**Storage shared with session recording**	Eskil Varenius - eskil.varenius@chalmers.se	ONTIE, VGOSB, VGOSC
Shanghai	4 Gbps	2 Gbps	1.4 PB	5	3	2.6.2	2.6.1	3.21	0.7.2					sfo@shao.ac.cn	AOV, APSG, CRF, R&D, VO
UTAS	4 Gbps	1 Gbps	800 TB	2	N/A	2.6.2	2.5.3	3.21	0.7.2				**Gbps transfers with Warkworth, ~300-400 Mbps from Ht are typical.**	Jamie.McCallum@utas.edu.au	AUM, AUA, AOV
VLBA	N/A	N/A	N/A	N/A	16	2.6.2	N/A	N/A					**The 16 Mark6 units consist of 8 main chassis and 8 expansion chassis.**	jogle@nrao.edu	RV
Vienna	10 Gbps	2.9 Gbps single stream; 8.6 Gbps multi streams	1.008 PB	N/A	N/A	2.6.2	2.5.0	3.22	0.7.2					correlator@twein.ac.at	EVGOS, VO
Washington	10 Gbps	10 Gbps	287 TB			2.6.2	2.5.3	3.21	0.7.2					phillip.c.haftings.civ@mail.mil	R4, CRDS,VO, INT1, V2

	Link	Useable	Local Data	Recording	Transmitting	Transfer	Transfer	Transfer	Transfer	Transfer	Transfer	BB or	Rack		Information	Participating
STATIONS	**Rate**	**Rate**	**Storage**	**Units**	**Units**	**to Bonn**	**to Hays**	**to WACO**	**to SHAO**	**to GSI**	**to Vienna**	**S/X**	**Ex. DBBC2, DBBC3, or RDBE**	**Comments**	**Provided by and on**	**Sessions**
Aggo (La Plata)	**1 Gbps**	**400 Mbps**	**12 TB**	**Mk5B+**	**Mk5B**	**X**	**N/A**	**X**	**N/A**	**N/A**	**N/A**	**S/X**	**VLBA4**	**Will switch to the DBBC2 and Flexbuff once installed.**	**Hayo Hase - 5/13/21**	**R1, APSG, T2, OHG, R4, CRD**
Badary-13m	**10 Gbps**	**2 Gbps**	**80 TB**	**Dtrs**	**Dtrs**	**X**	**X**	**via Hays**	**N/A**	**N/A**	**N/A**	**BB**	**BRAS**		**Elena Shurikhina - 4/12/21**	
Badary-32m EVN	**10 Gbps**	**2 Gbps**	**10 TB**	**M5B+**	**Server**	**X**	**X**	**via Hays**	**N/A**	**N/A**	**N/A**	**S/X**	**R1002M**	**e-vlbi data transfer for IVS sessions**	**Elena Shurikhina - 4/12/21**	**R1, CRF, T2, R4**
DSS13 (Goldstone)	**N/A**	**N/A**	**N/A**	**M5C**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**S/X**	**DVP**	**Not currently doing e-VLBI**	**George Martinez - 5/13/21**	**T2**
DSN26 (Goldstone)	**N/A**	**N/A**	**N/A**	**M5C**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**S/X**	**DVP**	**Not currently doing e-VLBI**	**George Martinez - 5/13/21**	**T2**
DSS34 (Australia)	**N/A**	**N/A**	**N/A**	**M5C**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**S/X**	**DVP**	**Not currently doing e-VLBI**	**George Martinez - 5/13/21**	**T2**
DSS36 (Australia)	**N/A**	**N/A**	**N/A**	**M5C**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**S/X**	**DVP**	**Not currently doing e-VLBI**	**George Martinez - 5/13/21**	**T2**
DSN54 (Spain)	**N/A**	**N/A**	**N/A**	**M5C**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**S/X**	**DVP**	**Not currently doing e-VLBI**	**George Martinez - 5/13/21**	**T2**
DSS56 (Spain)	**N/A**	**N/A**	**N/A**	**M5C**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**S/X**	**DVP**	**Not currently doing e-VLBI**	**George Martinez - 5/13/21**	**T2**
Effelsberg EVN	**10 Gbps**	**1 Gbps**	**490 TB**	**M5C, Flexbuff**	**Flexbuff**	**X**	**X**	**X**	**N/A**	**N/A**	**N/A**	**S/X**	**Mark4**	**10 Gbps link to Bonn & Jive only**	**Uwe Bach - 5/25/21**	**EUR**
Fortaleza	**1 Gbps**	**100 Mbps & 300 Mbps**	**none**	**M5A**	**M5B+**	**X**	**X**	**X**	**X**	**N/A**	**N/A**	**S/X**	**Mark4**	**100 Mbps during business hours & 300 Mbps during night & weekends to Bonn & WACO**	**Adeildo Sombra - 4/14/21**	**R1,T2,CRF,OHG,R&D,R4,[RDV]**
GGAO	**1 Gbps**	**700 Mbps**	**none**	**Mark6**	**Mark6**	**N/A**	**X**	**X**	**N/A**	**N/A**	**X**	**BB**	**RDBE-G**		**Katie Pazamickas - 4/12/21**	**VO**
HartRAO-15m	**10 Gbps**	**~5 Gbps**	**16TB**	**M5B+**	**M5C**	**X**	**N/A**	**X**	**N/A**	**N/A**	**X**	**S/X**	**DBBC2**	**Flexbuff awaiting assembly and commissioning. Rack is DBBC2 with internal FiLa10G.**	**Jonathan Quick - 4/13/21**	**AUA, R1,T2, OHG, R4**
HartRAO-26m EVN	**10 Gbps**	**~5 Gbps**	**252TB**	**M5B+, Flexbuff**	**M5B, Flexbuff**	**X**	**X**	**X**	**X**	**N/A**	**X**	**S/X**	**DBBC2**	**HartRAO 15m and 26m share the same link, Flexbuff usually reserved for EVN use. Rack is DBBC2 with internal FiLa10G.**	**Jonathan Quick - 4/13/21**	**T2,CRF, CRDS, R&D [RDV]**
Hobart-26m	**10 Gbps**	**~3 Gbps**	**~600TB**	**M5B+, Flexbuff**	**Server, Flexbuff, UTAS HPC**	**X**	**X**	**X**	**X**	**X**	**X**	**S/X**	**DBBC2**	**E-transfer speeds from RAID or mark5b are limited to < 1Gbps but the flexbuffs are capable of rates of ~10Gbps. Suffering from a bottleneck after leaving university network.**	**Jamie McCallum - 5/19/21**	**CRF, CRDS, R&D, AOV, R1, T2**
Hobart-12m	**10 Gbps**	**~3 Gbps**	**~270 TB**	**Flexbuff**	**M5B, Flexbuff**	**X**	**X**	**X**	**X**	**X**	**X**	**BB**	**DBBC3**		**Jamie McCallum - 5/19/21**	**AOV, AUA, AUM**
Ishioka-13m	**10 Gbps**	**10 Gbps**	**30TB**	**K5VSI**	**Server**	**X**	**X**	**X**	**X**	**X**	**X**	**Both**	**ADS3000+**	**ADS3000+ as a sampler and use K5VSI system for recording. Is is setting up DBBC3 but has not used yet.**	**Saho Matsumoto & Tomokazu Nakakuki 4/23/21**	**R1, R4, INT2, INT3, APSG, T2, AOV,CRF, R&D, VGOS-O, VGOS INT**
Katherine			**~270TB**	**Flexbuff**		**X**	**X**	**X**	**X**	**X**	**X**	**BB**	**DBBC3**	**Transfer via Hobart to Bonn and Hays, seldom to WACO**	**Jamie McCallum - 5/19/21**	**AOV, AUA, AUM**
Koganei (Narrow)	**10 Gbps**	**8 Gbps**	**31 TB**	**K5**	**VLBI server**	**X**	**X**	**X**	**X**	**X**	**X**	**S/X**	**K5**	**Data server moved from Kashima to Koganei in May 2021. Data transfer rate will be no less than former.**	**Mamoru Sekido - 5/03/21**	**APSG, T2, CRF**
Kokee	**10 Gbps**	**700 Mbps**	**none**	**M5B+**	**M5C**	**N/A**	**X**	**X**	**N/A**	**X**	**N/A**	**S/X**	**VLBA5**		**Chris Coughlin - 4/12/21**	**INT1, R1, APSG,T2, CRF, OHIG, R&D, RDV, R4**
KPGO-12m	**10 Gbps**	**700 Mbps**	**none**	**Mark6**	**Mark6**	**X**	**X**	**X**	**N/A**	**N/A**	**X**	**BB**	**RDBE-G**		**Chris Coughlin - 4/12/21**	**VGOS-O, V2**
Kunming	**3 Gbps**	**128 Mbps**	**none**	**M5B+**	**M5B+**	**N/A**	**N/A**	**N/A**	**X**	**N/A**	**N/A**	**S/X**	**CDAS**	**e-transfer to Shanghai Correlator Only**	**Fengchun Shu 4/11/21**	**APSG, AOV, CRF, R&D**
Matera		**30 Mbps**	**none**	**M5B+**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**S/X**	**Mark4**	**Not currently doing e-VLBI; transferred some short sessions data to Medicina using FTP**	**Pino Colucci - 4/13/21**	**R1,T2, R&D, R4**
MGO	**1 Gbps**	**300 Mbps**	**none**	**Mark6**	**Mark6**	**N/A**	**X**	**N/A**	**N/A**	**N/A**	**N/A**	**BB**	**RDBE-G**	**Not currently doing eVLBI**	**Eusebio 'Chevo' Terrazas - 5/4/21**	**VGOS-O**
Medicina EVN	**10 Gbps**	**10 Gbps**	**360TB (FB)**	**Flexbuff**	**same**	**X**	**X**	**X**	**X**	**N/A**	**N/A**	**S/X**	**DBBC2**	**Mark5C decommisioned**	**Beppe 5/5/21**	**T2,R&D,R4**
Metsahovi 3mm & EVN	**10 Gbps**	**4 Gbps**	**8 TB, 72 TB, 22 TB**	**M5B+, FlexBuff, FlexBuff**	**M5B+, 2 x FlexBuffs**	**X**	**X**	**N/A**	**N/A**	**N/A**	**N/A**	**S/X**	**DBBC_DDC**		**Nataliya Zubko - 5/25/21**	**T2**
Mizusawa	**1Gbps**	**300Mbps**	**36 TB**	**K5/VSSP, M5B**	**M5B**	**X**	**N/A**	**N/A**	**X**	**X**	**N/A**	**S/X**	**N/A**		**Yoshiak Tamura - 5/16/21**	**T2, AOV**
Noto EVN	**10 Gbps**	**10 Gbps**	**360 TB**	**Flexbuff**	**Flexbuff**	**X**	**X**	**X**	**X**	**N/A**	**N/A**	**S/X**	**DBBC2**		**Alessandra Zanichelli - 4/19/21**	**T2,CRF, R1, R4**
Ny Alesund	**10 Gbps**	**400 Mbps**	**92TB**	**M5B+**	**M5B+**	**X**	**X**	**X**	**X**	**X**	**X**	**S/X**	**DBBC2**		**Piotr - 5/14/21**	**R1,T2,R&D,R4, INT, RDV**
Ny Alesund - South	**10 Gbps**	**400 Mbps**	**~109TB**	**Flexbuff**	**Flexbuff**	**X**	**N/A**	**X**	**N/A**	**N/A**	**N/A**	**S/X**	**DBBC2**		**Piotr - 5/14/21**	**R1,R4,RDV, R&D, T2**
O'Higgins	**2 Mbps**	**1 Mbps**	**100 TB**	**M5B+ and Flexbuff**	**Flexbuff**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**S/X**	**DBBC2**	**Internet link is still only useful for fringe testing with Bonn.**	**Christian Plotz - 4/23/21**	**T2, OHG**
Onsala EVN & 3mm	**10 Gbps + 10 Gbps**	**6 Gbps + 3 Gbps**	**1200 TB + 310 TB**	**Flexbuff**	**Flexbuff**	**X**	**X**	**X**	**X**	**X**	**X**	**S/X**	**DBBC2**		**Eskil Varenius & RH - 5/18/21**	**R1,T2,R&D,RDV, ONTIE**
Onsala-East	**10 Gbps + 10 Gbps**	**~5-10 Gbps**	**1200 TB + 310 TB**	**Flexbuff**	**Flexbuff**	**X**	**X**	**X**	**X**	**X**	**X**	**BB**	**DBBC3**		**Eskil Varenius & RH - 5/18/21**	**VGOS-O, EU-VGOS, ONTIE, VGOSB, VGOSC**
Onsala-West	**10 Gbps + 10 Gbps**	**~5-10 Gbps**	**1200 TB + 310 TB**	**Flexbuff**	**Flexbuff**	**X**	**X**	**X**	**X**	**X**	**X**	**BB**	**DBBC3**		**Eskil Varenius & RH - 5/18/21**	**VGOS-O, EU-VGOS, ONTIE, VGOSB, VGOSC**
Sejong	**1 Gbps**	**~800 Mbps**	**66 TB**	**K5/VSSP32 & Mark 6**	**VLBI server**	**X**	**N/A**	**N/A**	**X**	**X**	**N/A**	**S/X**	**K4-1 (K5)**		**SangOh-Yi - 5/25/21**	**R1, T2, AOV, APSG**
Seshan-25m EVN	**10 Gbps**	**2 Gbps**	**4TB 8TB 16TB**	**M5B+**	**M5B+**	**X**	**X**	**via Hays**	**X**	**X**	**N/A**	**S/X**	**CDAS**	**Transfer via Haystack to WACO**	**Bo Xia - 5/4/21**	**INT2, INT3, R1, APSG,T2,AOV,RV**
Simeiz	**500 Mbps**	**50-100 Mbps**	**750 TB**	**M5A, M5B+**	**M5B+**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**S/X**	**Mark5**	**Not currently doing e-VLBI**	**Alexandr Volvach - 6/1/21**	**[EUR, T2]**
Svetloe-13m	**10 Gbps**	**2 Gbps**	**80 TB**	**Dtrs**	**Dtrs**	**X**	**X**	**via Hays**	**X**	**N/A**	**N/A**	**BB**	**MDBE**		**Elena Shurikhina - 4/12/21**	
Svetloe EVN	**10 Gbps**	**2 Gbps**	**10 TB**	**M5B+**	**Dtrs**	**X**	**X**	**via Hays**	**X**	**N/A**	**N/A**	**S/X**	**R1002M**	**e-vlbi data transfer for IVS sessions+O64**	**Elena Shurikhina - 4/12/21**	**R1, INT1, T2, R4**
Syowa	**3 Mbps**	**1 Mbps**	**36 TB**	**K5/VSSP64**	**VLBI server**	**X**	**N/A**	**N/A**	**N/A**	**X**	**N/A**	**S/X**	**K5**	**AOV054 & AOV055. If no problems, will start using in VLBI sessio**	**Koichiro Doi - 4/23/21**	**OHG**
Tianma	**10 Gbps**	**2 Gbps**	**240 TB/388 TB**	**Flexbuff**	**Flexbuff/Server**	**X**	**X**	**N/A**	**X**	**X**	**N/A**	**S/X**	**DBBC2**		**Bo Xia - 5/4/21**	**R&D, AOV**
Urumqi EVN	**155 Mbps**	**20 Mbps**	**none**	**M5B+**	**M5B**	**N/A**	**N/A**	**N/A**	**X**	**N/A**	**N/A**	**S/X**	**DBBC2**	**e-transfer has been done to JIVE**	**Hua Zhang - 5/16/21**	**APSG,T2, R4**

Warkworth-12m	10 Gbps	5 Gbps	400 TB	Flexbuf	Flexbuf	X	N/A	X	X	X	X	S/X	DBBC2		Stuart Weston 5/25/21	R1,APSG,T2,CRD,OHG,R4,AOV
Warkworth-30m	10 Gbps	5 Gbps	320 TB	Flexbuf	Flexbuf	X	N/A	X	X	X	X	X	DBBC2		Stuart Weston 5/25/21	
Westford	1 Gbps	1 Gbps	Mark6 Disk module dependent	Mark6	Mark6	X	N/A	X	X	N/A	N/A	BB	R2DBE-G	Has native 1Gbps e-transfer rate capability, but the module can be brought to Haystack and 10G rate is available from e-transfer machines.	Chet Ruszczyk - 5/25/21	VO & R&D
Wettzell	6 Gbps	4 Gbps	72TB, 281TB	Flexbuff	Flexbuff	X	X	X	X	X	X	S/X	DBBC2	Each radio telescope shares the same internet line resource. I.e. the total outgoing BW is 6 Gbps, but useable for e-transfer is in total 4 Gbps outgoing. This applies & includes the HPC Cluster. Local storage is accesible & useable for all 3 telescopes.	Christian Plotz - 4/23/21	R1,T2,R4, R&D, RDV, INT1, INT2, INT3
Wettzell-North	6 Gbps	4 Gbps	72TB, 281TB	Mark5B+	Mk5B+, Flexbuff	X	X	X	X	X	X	S/X	DBBC2	Each radio telescope shares the same internet line resource. I.e. the total outgoing BW is 6 Gbps, but useable for e-transfer is in total 4 Gbps outgoing. This applies & includes the HPC Cluster. Local storage is accesible & useable for all 3 telescopes.	Christian Plotz - 4/23/21	R1,T2,R4, INT3
Wettzell-South	6 Gbps	4 Gbps	72TB, 281TB	Mark6, Flexbuff	Mark6, Flexbuff	X	X	X	X	X	X	BB	DBBC2	Each radio telescope shares the same internet line resource. I.e. the total outgoing BW is 6 Gbps, but useable for e-transfer is in total 4 Gbps outgoing. This applies & includes the HPC Cluster. Local storage is accesible & useable for all 3 telescopes.	Christian Plotz - 4/23/21	VO, V2
Wettzell DiFX HPC-Cluster	3 Gbps	2 Gbps	834TB Cluster Storage	N/A	N/A									The 2 Gbps as useable rate indicates the useable ingoing data rate, mostly applicable for the HPC correlator usage where data needs to be copied to Wettzell.	Christian Plotz - 4/23/21	
Yarragadee				M5B+		X	X	X	X	X	X	S/X	DBBC2	Transfer via Hobart to Bonn and Hays, seldom to WACO. Currently using Mark5B+ but a fila10G/flexbuff is now available.	Jamie McCallum - 5/19/21	R1,APSG,T2,CRF, CRDS,OHG, R4, AOV
Yebes-40m EVN	10 Gbps	5 Gbps	30 TB	Flexbuf	Flexbuf	X	X	X	X	N/A	X	S/X	DBBC2	e-transfers from the Flexbuf require m5copy	Javier Gonzalez - 4/12/21	R1,EUR,T2, R4
Yebes-13m	10 Gbps	5 Gbps	770 TB	Mark6	Mark6	X	X	X	X	N/A	X	BB	RDBE-G		Javier Gonzalez - 4/12/21	VGOS
Zelenchukskaya-13m	10 Gbps	2 Gbps	80 TB	Dtrs	Dtrs	X	X	via Hays	X	N/A	N/A	BB	BRAS		Elena Shurikhina - 4/12/21	
Zelenchukskaya-32m EVN	10 Gbps	2 Gbps	12 TB	M5B+	server	X	X	via Hays	X	N/A	N/A	S/X	R1002M	e-VLBI data transfer for IVS sessions	Elena Shurikhina - 4/12/21	R1. CRF, T2, R4