STOCK & INDEX RELEASE NOTES

DECEMBER 2016 MONTHLY UPDATE

These release notes pertain to the December 2016 Monthly release of the CRSP US Stock and Index databases, available in January 2017.

SUN SOLARIS SUPPORT ENDING

In order to ensure that our subscribers continue to have robust and dependable data access, CRSP is retiring big-endian databases for use on Solaris platforms following publication of the December 2016 data cut that is available in January 2017. After this time CRSP databases will be available in flat file formats that can be used on all platforms, through our partner distributors such as WRDS and TQA, and for use with CRSP tools on the following CRSP-supported platforms:

- Windows 8.1 & 10 32-bit & 64-bit
- Red Hat Linux 32-bit & 64-bit

Oracle's Solaris support at CRSP ended in June 2016. CRSP is making efforts to contact our subscribers impacted by this change to ensure a timely transition. Should you have immediate questions, please contact us at:

User Support – CRSP Research Products: Support@crsp.ChicagoBooth.edu, or 312-263-6400 select # 2

DECEMBER 2016 DATA EDITS

GROUP EDITS

BEGDT	ENDDT	DESCRIPTION
20010102	20161230	Added missing ADR distributions and made corections to distributions and codes from 2001-2016.
19900102	20161230	Added Facpr for distribtuions for about 80 securities within the date range of 19900102 to 20161230

INDIVIDUAL EDITS START ON THE NEXT PAGE

INDIVIDUAL EDITS

PERMN	PERMNO COMPANY NAME		DESCRIPTION		BEGDT	ENDT					
15629 VANGUARD MUNICIPAL BOND FUNDS		from 1222 to 1 20151102, fro	Change distribution code from 1213 to 1223 on ex-date 20150901, from 1222 to 1223 on ex-date 20151001, from 1222 to 1223 on ex-date 20151102, from 1222 to 1223 on ex-date 20151201 & from 1262 to 1223 on ex-date 20151223								
OLD VA	LUE:										
Code 1213 1222 1222 1222	0.01 0.07 0.06 0.03	900 600 700	Facpr 0.0000 0.0000 0.0000 0.0000	Facshr 0.0000 0.0000 0.0000 0.0000	Dclrdt 0 20150929 20151030 20151127	Exdt 20150901 20151001 20151102 20151201	Rcrddt 20150903 20151005 20151104 20151203	Paydt 20150908 20151007 20151106 20151207	Aperm 0 0 0 0	Acomp 0 0 0 0 0	
1262	0.10	300	0.0000	0.0000	20151221	20151223	20151228	20151230	0	0	
NEW VA	ALUE: Diva	mt	Facpr	Facshr	Dclrdt	Exdt	Rcrddt	Paydt	Aperm	Acomp	
1223 1223 1223 1223 1223	0.01 0.07 0.06 0.03 0.10	600 700 200	0.0000 0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000	0 20150929 20151030 20151127 20151221	20150901 20151001 20151102 20151201 20151223	20150903 20151005 20151104 20151203 20151228	20150908 20151007 20151106 20151207 20151230	0 0 0 0	0 0 0 0	
15980				Changed trading symbol to UACWI from UAWI for 20160323-20160407 and to UAC from UA for 20160408-20161130							
89922		TESSE INC	RA TECHNO	OLOGIES	Change company name to TESSERA TECHNOLOGIES INC from TESSERA TECHNOLOGIES for entire history						
77069			N MI QUAL IE MUNI FD		Change name to NUVEEN MI QUALITY INCOME MUNI FD from NUVEEN MI QLTY INC MUNI FD INC for 20130107-20161130			1/7/2013	11/30/2016		
13702		D S HE INC	ALTHCARE	GROUP		from 20160405 isting informati		Changed enddate	to 20160404	4/5/2016	11/30/2016
63079	ı	KEY EN	NERGY SER	VICES INC		Added zero nameline for the period 20160728 to 20161215 to reflect off- exchange activity.				7/28/2016	12/15/2016
16275			N HIGH IN MBER 2021		OME Changed shares outstanding to 50000 from 1400 for 20160824-20161229			8/24/2016	12/29/2016		
86996	6 S B A COMMUNICAITONS CORP			AITONS Added Class A designation for entire history.			6/16/1999	12/30/2016			
92681			HOUSING OP INC	& LAND	Removed reve	rse split on ex-d	ate 20161219				

PERMNO	COMPANY NAME		DESCRIPTION	N				BEGDT	ENDT
87173	LOOKSMART LTD		Change dist 0.0 to 0.06.	tribution cod	e from 3888 to 38	63 and distribution amo	unt from		
OLD VALUE:									
Code	Divamt	Facpr	Facshr	DcIrdt	Exdt	Rcrddt	Paydt	Aperm	Acomp
5523	0.00000	-0.6667	-0.6667	0	20131106	20131106	20131	106 0	0
5523	0.00000	-0.8488	-0.8488	0	20151028	20151028	20151	028 0	0
3723	6.56020	-1.0000	-1.0000	0	20151029	20151027	20151	027 15796	55469
3888	0.00000	0.0000	0.0000	0	20151029	20151027 2	01510	28 0	0
NEW VALUE	:								
Code	Divamt	Facpr	Facshr	Dclrdt	Exdt	Rcrddt	Paydt	Aperm	Acomp
5523	0.00000	-0.6667	-0.6667	0	20131106	20131106	20131	106 0	0
5523	0.00000	-0.8488	-0.8488	0	20151028	20151028	20151	028 0	0
3723	6.56020	-1.0000	-1.0000	0	20151029	20151027	20151	027 15796	55469
3863	0.06000	0.0000	0.0000	0	20151029	20151027	20151	028 0	0
19852	SMITH A O CORP	Added closing price, highask, bidlow and volume for 19831003					10/3/1983	10/3/1983	
15388	ACCUSHARES TRUS	Added closing price to -4.455 from 0, highask to 4.82 from 0, bidlow to 4.09 from 0, ask to 4.82 from 0 & bid to 4.09 from 0 for 20160720				7/20/2016	7/20/2016		
12445	E T F S WHITE META BASKET TR	_	_	from 470 to 450 a 3 on exdate 20160	nd added final liquidati 0601	ng	3/2/2016	6/1/2016	

FILE VERSION SPECIFICS

This table contains version specific information for the CRSP Stock Files with data ending December 2016. It contains the number of securities and information about the maximums of the event arrays.

FILE CODE	# OF SECURITIES	MAX NAMES	MAX DISTS	MAX SHARES	MAX DELISTS	MAX Groups	MAX NASDIN	FIRST PERMNO	LAST PERMNO
DAZ	31628	39	1538	2393	1	4	2619	10000	93436
MAZ	31599	39	1538	2393	1	4	2619	10000	93436

CALENDAR	DATE RANGE	DATE INDEX RANGE
Daily trading calendar	19251231-20161230	1-24039
Month-end trading calendar	19251231-20161230	1-1093
Year-end trading calendar	19251231-20171229	1-93
Quarter-end trading calendar	19251231-20171229	1-369
Weekly trading calendar	19260102-20161230	1-4748

CRSPACCESS PRODUCT INFORMATION

To simplify installation for our subscribers, data are bundled into product groups. Information relevant to each product group is listed in the table below.

PRODUCT NAME	DATABASE	SIZE	INDEXES	PORTFOLIOS	COMPONENTS & DESCRIPTION
CRSP 1925 US Stock and Index Database	FIZyyyymm SIZyyyymm (SAS/ASCII)	4.1 GB	All CRSP indexes and portfolio assignments	All portfolios	DI - 1925 Daily US Stock & Index Database MI - 1925 Monthly US Stock & Index Database IF - CRSP Supplemental US Indexes
CRSP 1925 US Stock	FAZyyyymm SAZyyyymm (SAS/ASCII)	3.7 GB	CRSP NYSE/ AMEX/ NASDAQ Value- weighted Market, CRSP NYSE/ AMEX/ NASDAQ Equal-weighted Market, S&P 500 Composite, NASDAQ Composite		DA - 1925 Daily US Stock MA - 1925 Monthly US Stock IN - CRSP Limited US Indexes
CRSP 1962 US Stock	A6Zyyyymm S6Zyyyymm (SAS/ASCII)	3.3 GB	CRSP NYSE/ AMEX/ NASDAQ Value- weighted Market, CRSP NYSE/ AMEX/ NASDAQ Equal-weighted Market, S&P 500 Composite, NASDAQ Composite		D6 - 1962 Daily US Stock M6 - 1962 Monthly US Stock IN - CRSP Limited US Indexes
CRSP 1962 US Stock and Index Database	AXZyyyymm SXZyyyymm (SAS/ASCII)	3.6 GB	See FIZ	All portfolios	DX - 1962 Daily US Stock & Index Database MX - 1962 Monthly US Stock & Index Database IF - CRSP Supplemental US Indexes
CRSP 1925 US Indexes	IFZyyyymm SFZyyyymm	122 MB			IF - CRSP Supplemental US Indexes
CRSP/Compustat Merged Database	CMZyyyymm	10.37 GB			CM - Compustat Data formatted in CRSPAccess Database
Daily & Monthly Treasuries in CRSPSift	TRZyyyymm	278 MB			TR - Database format for use with CRSPSift
Daily & Monthly Treasuries Files	TFZyyyymm	1.75 GB			TF - Expanded daily and monthly files in EXCEL, SAS, and ASCII formats
Mutual Fund Database	MFZyyyymm	10 GB			MF - Mutual Funds
CRSP/Ziman Daily & Monthly REIT	RAZyyyymm	251 MB			RD - Daily REITs RM - Monthly REITs

DELIVERY METHOD, INSTALLS, AND DATA FORMATS

DELIVERY

CRSP data delivery for all products is available only through the Cloud, utilizing IPSwitch's MOVEit Cloud product. (https://crsp.moveitcloud.com)

If you have not yet accessed your account, or need assistance, contact support@crsp.chicagobooth.edu, or call 312-263-6400, Option 2.

While DVDs are no longer available from CRSP, you are welcome to create your own once you have downloaded the data, and use as long as you have an active license to do so.

ZIP INSTALLS

CRSP uses a zip process for data installation. ZIP utilities that are standard on all platforms should work to unzip the databases. On Windows computers, CRSP recommends using 7-ZIP, which can be downloaded from this site: http://www.7-zip.org/

Several important items to note follow:

- All directories are extracted to lower case letters. For example: C:\crspdata\miz201308
- All Windows Users: Extracting a zipped file does not create an installed program in Windows. It will not show in the

Windows Control Panel. When uninstalling the data, just delete the directories that contain the detailed files

• Red Hat Linux Users: If your version of Red Hat is earlier than 6.0, you will need to install an updated version of the "File Roller" program in order to install the data

ZIP FILE STRUCTURE AND PROCESS

Windows 7/XP Products:

PRODUCT LABEL	PRODUCT NAME	FILE NAME
A6Z1_yyyymm_SLD	CRSP 1962 US Stock	a6zyyyymm_cadb.zip
AXZ1_yyyymm_SLD	CRSP 1962 US Stock and Index	axzyyyymm_cadb.zip
FAZ1_yyyymm_SLD	CRSP 1925 US Stock	fazyyyymm_cadb.zip
FIZ1_yyyymm_SLD	CRSP 1925 US Stock and Index	fizyyyymm_cadb.zip
IFZ1_yyyymm_SGD	CRSP 1925 Indexes	ifzyyyymm_cadb.zip

Red Hat Linux Products:

PRODUCT LABEL	PRODUCT NAME	FILE NAME
A6Z1_yyyymm_SLD	CRSP 1962 US Stock	a6zyyyymm_cadb.zip
AXZ1_yyyymm_SLD	CRSP 1962 US Stock and Index	axzyyyymm_cadb.zip
FAZ1_yyyymm_SLD	CRSP 1925 US Stock	fazyyyymm_cadb.zip
FIZ1_yyyymm_SLD	CRSP 1925 US Stock and Index	fizyyyymm_cadb.zip
IFZ1_yyyymm_SGD	CRSP 1925 Indexes	ifzyyyymm_cadb.zip

Solaris SPARC Products:

PRODUCT LABEL	PRODUCT NAME	FILE NAME
A6Z1_yyyymm_SBD	CRSP 1962 US Stock	a6zyyyymm_sparc.zip
AXZ1_yyyymm_SBD	CRSP 1962 US Stock and Index	axzyyyymm_sparc.zip
FAZ1_yyyymm_SBD	CRSP 1925 US Stock	fazyyyymm_sparc.zip
FIZ1_yyyymm_SBD	CRSP 1925 US Stock and Index	fizyyyymm_sparc.zip
IFZ1_yyyymm_SGD	CRSP 1925 Indexes	ifzyyyymm_sparc.zip

Flat File Products:

PRODUCT NAME	FILE NAME		
SAS Zip	s*zyyyymm_sas.zip		
ASCII Zip	s*zyyyymm_ascii.zip		

STEPS TO INSTALL:

- From the directory containing your downloaded zip file, right click (in Windows) or run File Roller (in Red Hat and Solaris)
- Set the extract destination to the current higher level directory where data is normally stored and unzip will add the rest of the path (default is C:\ in Windows or /home in Red Hat and Solaris)
- For example, in Windows, extracting to C:\ will install the data under C:\crspdata

Contact CRSP Client Services for assistance at: support@crsp.chicagobooth.edu or call 312-263-6400, Option 2.

SETTING ENVIRONMENT VARIABLES

The zip process will not automatically set environment variables for use with command line tools. The following steps will do so.

NOTE: CRSPSift does not use and therefore does not require environment variables.

LINUX AND SUN SOLARIS

NOTE: The new zip installs are now saving to directories with lower case letters – for example, ~/crspdata/diz201308 Check the current state of the environment variables by entering this command: env | grep crsp

- If you have admin privileges on your machine, open the .profile file, and make updates to the following lines to update the paths for the new data installed:
 - CRSP_DSTK=<full path name>/<daily stock directory> (example: CRSP_DSTK=~/crspdata/diz201308)
 - CRSP_MSTK==<full path name>/<monthly stock directory> (example: CRSP_DSTK=~/crspdata/miz201308)
 - CRSP_IND=<full path name>/<index directory> (example: CRSP_IND=~/crspdata/ifz201308)
- If you are using the bash shell (or any Bourne-style shell), enter the same commands above and export each one. This will make changes for your current session only and does not save to the .profile file.
- A shell script is available to make changes that can be reused for each update done. Note that this will only make changes to your current session and does not save to the .profile file.
 - Navigate to where the CUPL tools are loaded and then enter: cd accbin
 - Start the script by entering: ./crsp setup.sh
 - The script will prompt for the following:
 - File name (will be appended with .kshrc)
 - Top level directory (this should be where CUPL tools are located (example: ~/crsp)
 - Scratch directory for error messages name can be anything
 - Enter path for daily stock directory (example: ~/crspdata/diz201308)
 - Enter path for monthly stock directory (example: ~/crspdata/miz201308)
 - Enter path for index directory (example: ~/crspdata/ifz201308)
 - Enter path for CCM directory enter to leave blank
 - Enter path for CST directory enter to leave blank
 - Execute script by running: . ./<file name created above>.kshrc (note there is a space between the two dots)

WINDOWS:

The CRSP Client Environment utility provides users a way to check the location of the software and to set environment variables. The utility can be started by locating it under installed programs CRSPAccess/CRSP Client Environment, or by navigating to the /accbin folder where the CUPL tools are installed and running: Client_Environment.exe (screen shot is displayed below). After making any changes, be sure to log off and back into Windows for the settings to be saved.

Note: For subscribers of the CRSP Compustat Merged database, additional CCM database environments will be displayed for the location of the Compustat data.

