

Zentralanstalt für Meteorologie und Geodynamik



Antelope Databases
remarks and questions

2010 Antelope User Group
Prague

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Schema: css3.0
Center for Seismic Studies Schema Version 3.0

Modifications from original CSS documentation:

- 0) units of calib vary according to the instrument, with wfdisc.seqtype and instrument.rsptype indicating both sensor type and units
- 1) Null values corrected for certain attributes.
- 2) offdate added to primary keys for tables in which it occurs.
- 3) endtime added to primary keys for tables in which it occurs.
- 4) time made first primary key in origin for sorting.
- 5) arid and orid added to foreign keys in assoc.
- 6) made range values expression for automated testing
- 7) added wfedit relation 12/3/93
- 8) changed the primary key in sitechan to chanid, and added chanid as a foreign key in sensor to force joins of sitechan to go through sensor table.
- 9) changed primary keys in moment and centryd table to orid.
- 10) added calibration and stage tables 1/31/94
- 11) changed primary keys in stamaq to arid, magtype, sta, orid
- 12) changed primary key in site to sta (no ondate, offdate)
- 13) changed null values for origerr's covariant matrix
- 14) changed definition of ndef for origins included from other catalogs
- 15) added beam, fkgrid and stgrid tables to accomodate array processing

achanaux	adoption	affiliation	alarmcache	alarmcomm	alarms	anetsta	arrival	arrival_tshift	assoc
b051	b059	balerlist	beam	calibration	calresult	calwf	centryd	changed	chanperf
comm	deployment	detection	detev	digitizer	dlacq	dlcalwf	dlchannel	dlevent	dlsensor
dlsite	dmcbull	dmcfiles	dmcseed	dmcwf	eids	emodel	event	fkgrid	fplane
gap	gps	gregion	gsnspec	instrument	iptable	lastid	latency	moment	netmag
netperf	network	nominalresp	origerr	origin	predarr	predmech	q330comm	q730b	qctests
qgrid	ratechange	remark	replayed	retransmit	rrdcache	rrdgraph	schanloc	seismometer	sensor
sensorcal	sensormodel	site	sitechan	sitephotos	snetsta	specdisc	sregion	stage	stamaq
stanotes	stassoc	stgrid	trigger	wfdisc	wfdisc_tshift	wfedit	wfmeas	wfmgme	wfoffset
wfrms	wfsrb	wftag	wftape	wftar					

Search for.. About dbhelp Quit

95 tables





dbhelp:css3.brvt

Schema: `css3.brvt`
 CSS3.0 modified by BRTT

Modifications from BRTT CSS 3.0 documentation:
 These changes support 64 bit executables and correspondingly larger integers and files.

The ondate and offdate fields are now times, not jdates.
 The primary key in sitechan is sta chan ondate::offdate
 Eliminated chanid.

All id fields are 12 digits instead of 8.

nsamp is 12 digits instead of 8.

dfile is 48 instead of 32 chars
 dir is 80 instead of 64 chars

qrname and srname are 60 chars instead of 40

achanaux	affiliation	anetsta	arrival	arrival_tshift	assoc	b051	b059	balerlist	beam
calibration	calresult	calwf	centryd	changed	chanperf	comm	deployment	detection	detev
digitizer	dlacq	dlcalwf	dlchannel	dlsensor	dlsite	dmcseed	dmcwf	emodel	event
fkgrid	fplane	gap	gps	gregion	instrument	iptable	lastid	latency	moment
netmag	netperf	network	nominalresp	origerr	origin	predarr	predmech	q330comm	q730b
ratechange	remark	retransmit	schanloc	seismometer	sensor	sensorcal	sensormodel	site	sitechan
snetsta	specdisc	sregion	stage	stamag	stanotes	stassoc	stgrid	trigger	wfdisc
wfdisc_tshift	wfedit	wfmeas	wfmgme	wfrms	wftag	wftape	wftar		

Search for..
About dbhelp
Quit

78 tables



css3.brvt – changes since css3.0 (so far)

- ondate, offdate now times instead of dates
- longer ids to make use of larger address space
- some fields longer (dir, dfile, grname, etc)
- no more chanid, key in sitechan is now sta chan
ondate::offdate

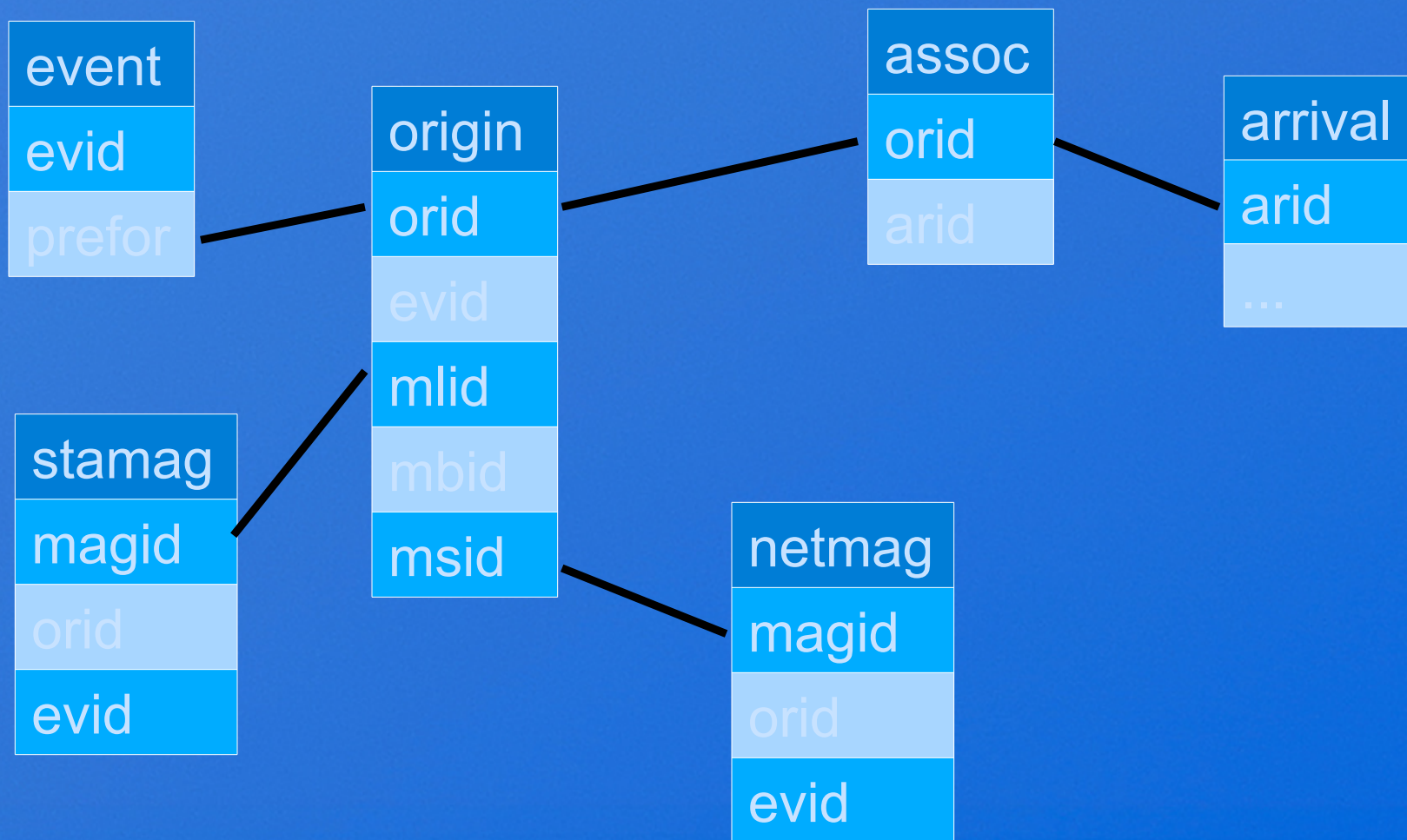
- datatype f4 eliminated, since it is the same as u4
- range for nass,ndef includes 0 now
- a few more segtypes (I personally could live without inches)

recommendations:

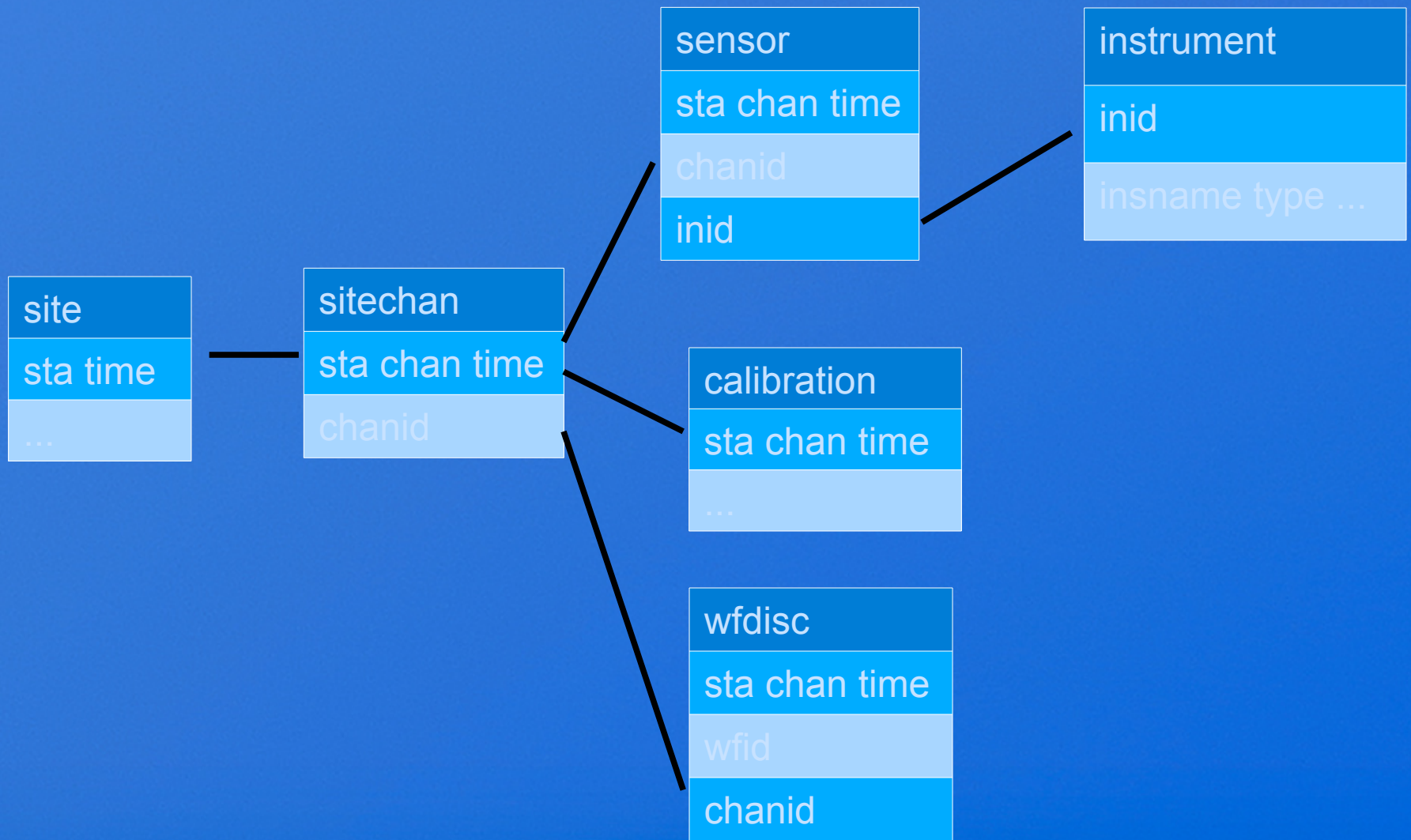
- I would favour a longer evname
- higher resolution for latitude and longitude
- allow ISF evtypes (kx,sx,km,sm etc.)
- magnitudes still not perfect, maybe additional table
- better documentation of database usage (e.g. which table contains the calib values actually used)



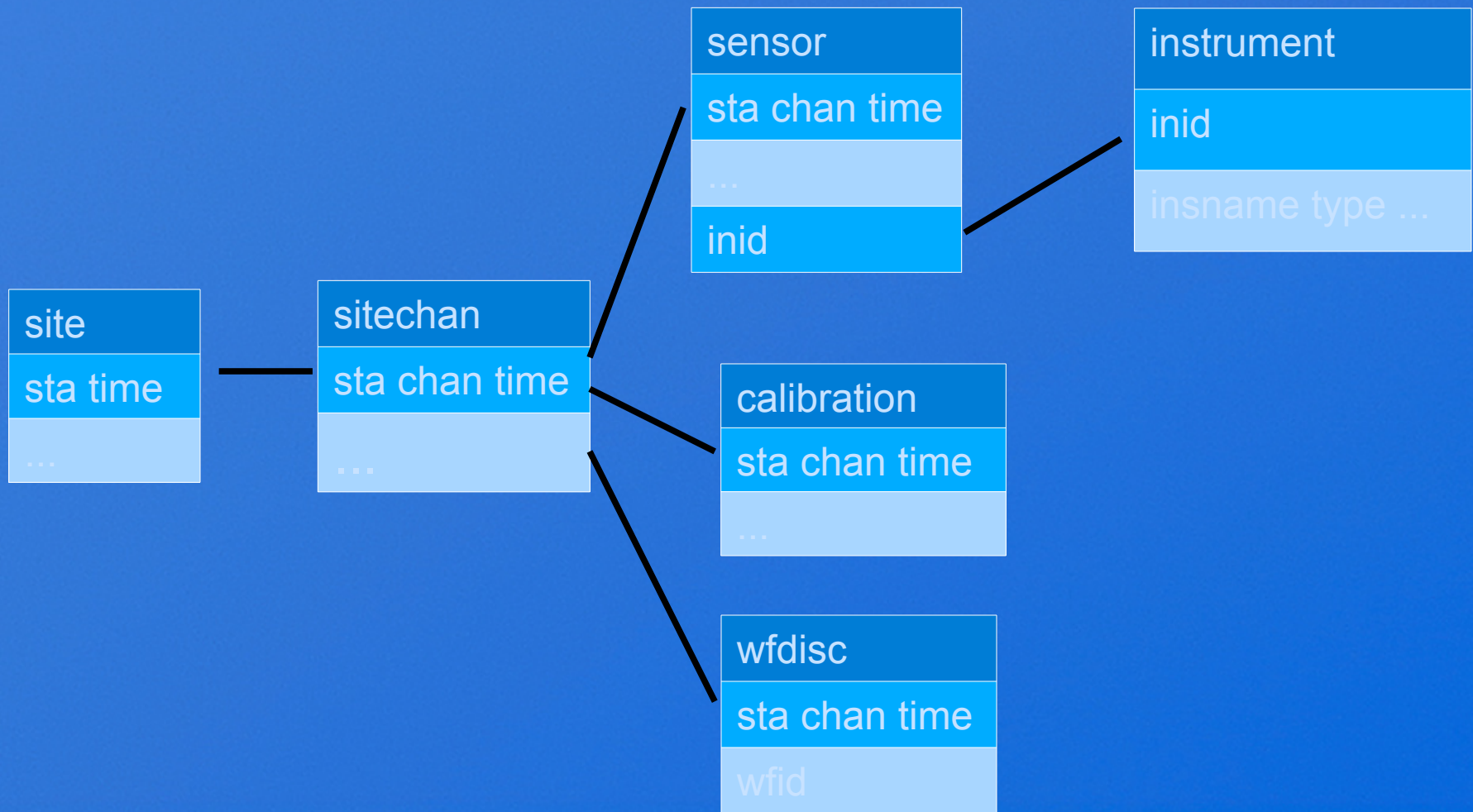
Event parameter



station parameter



station parameter - css3.brvt



station parameter – more details



digitizer
net sta chan time
ssident

dlacq
model ssident time

dlchannel
snet fsta fchan loc time
ssident

dlsite
model ssident time
wfid
chanid

q330com
dlsta time
ssident ?

seismometer
net sta chan time

dlevent
dlname dlevtype time

deployment
snet sta time

dlsensor
dlmodel dlident chident time

dlcalwf
snet fsta fchan loc time
ssident

sitephotos
sta time name size

nominalresp
net sta chan time

sensormodel
snmodel

adoption
snet sta time

stanotes
sta time



magnitudes



origin
orid
evid
mlid
mbid
msid

magassoc
evid
magtype
magid

netmag
magid
orid
evid

stamag
magid
orid
evid

problem with magnitudes:
preferred magnitude uncertain if other than
mb,ml or ms

a new table, called magassoc here, could
list the preferred magnitude for each event



- what is the “cost” of another table?
- possibility to join tables from different databases would be great
- how about extension schemata. Is it always better to add to the extensions directory?
- duplication tables – could this be simplified ?

```
Relation origin2
  Like origin
;
```

```
#
schema css3.0:origin2
dbpath ../dbmaster
```

```
...
css3.0:origin2 &ref(.dbe,css3.0)
...
```

