

Data format Stride checkpointing

March 17, 2017

1 Hierarchy

1.1 level /

1.2 level /Timestep_n

2 Table structure

/configuration	rank dims dtype	1 1 ConfDatatype
/configuration/disease (might not be necessary)	rank dims dtype	1 1 DiseaseConfigType
/configuration/holiday	rank dims dtype	1 1 HolidayConfigType
/configuration/agecontact	rank dims dtype	amt_ages amt_ages H5T_NATIVE_DOUBLE
/amt_persons	rank dims dtype	1 1 H5T_NATIVE_UINT
/personsTI	rank dims dtype	1 amt_persons PersonTIDatatype
/amt_timesteps	rank dims dtype	1 n_steps H5T_NATIVE_UINT
/Timestep_n/randomgen	rank dims dtype	1 amt_threads RNGDatatype
/Timestep_n/PersonTD	rank dims dtype	1 amt_persons PersonTDDatatype
/Timestep_n/Calendar	rank dims dtype	1 1 CalendarDatatype

2.1 Custom datatypes

2.1.1 ConfDatatype

- H5T_NATIVE_UINT - checkpointing_frequency
- H5T_NATIVE_ULONG - rng_seed (in the simulationbuilder, they parse the seed as a double, possible mistake/oversight?)
- H5T_NATIVE_UINT - r0
- H5T_NATIVE_DOUBLE - seeding_rate
- H5T_NATIVE_DOUBLE - immunity_rate
- H5T_NATIVE_UINT - num_days
- *Compound Datatype of string?* - output_prefix
- H5T_NATIVE_HBOOL - generate_person_file
- H5T_NATIVE_UINT - num_participants_survey
- Compound Datatype := dateString (8x H5T_NATIVE_CHAR) - start_date
Date in iso format, string of 8 characters.
- H5T_NATIVE_B8 - log_level
(3 possible values for log level, not sure what else to use.)
- ~~DiseaseConfigType - disease_xml~~
- ~~HolidayConfigType - holiday_json~~
- ~~AgeContactConfigType - age_contact_matrix_xml~~

2.1.2 RNGDatatype

- H5T_NATIVE_ULONG - seed
- (things to hold state of generator(s), tricky business)

2.1.3 PersonTIDatatype (time independent)

- H5T_NATIVE_UINT - ID
- H5T_NATIVE_DOUBLE - age
- H5T_NATIVE_CHAR - gender
- H5T_NATIVE_UINT - householdID
- H5T_NATIVE_UINT - schoolID

- H5T_NATIVE_UINT - workID
- H5T_NATIVE_UINT - primcommID
- H5T_NATIVE_UINT - seccommID

2.1.4 PersonTDDatatype (time dependent)

- H5T_NATIVE_HBOOL - athousehold
- H5T_NATIVE_HBOOL - atschool
- H5T_NATIVE_HBOOL - atwork
- H5T_NATIVE_HBOOL - atprimcomm
- H5T_NATIVE_HBOOL - atseccomm
- H5T_NATIVE_HBOOL - participant
- Compound Datatype :=
 health (5x H5T_NATIVE_UINT, 1x H5T_NATIVE_B8)
(Attributes from Health class, 8 bit type for enum?)

2.1.5 CalendarDatatype

- H5T_NATIVE_HSIZE - day
- Compound Datatype := dateString (8x H5T_NATIVE_CHAR) - date
Date in iso format, string of 8 characters.

2.1.6 DiseaseConfigType

Might not be necessary, this configuration file is only used for building the population.

2.1.7 HolidayConfigType

- H5T_NATIVE_UINT - year
- 12x31 H5T_NATIVE_HBOOL - general
- 12x31 H5T_NATIVE_HBOOL - school