Cell Data in WORLDLINE™

by

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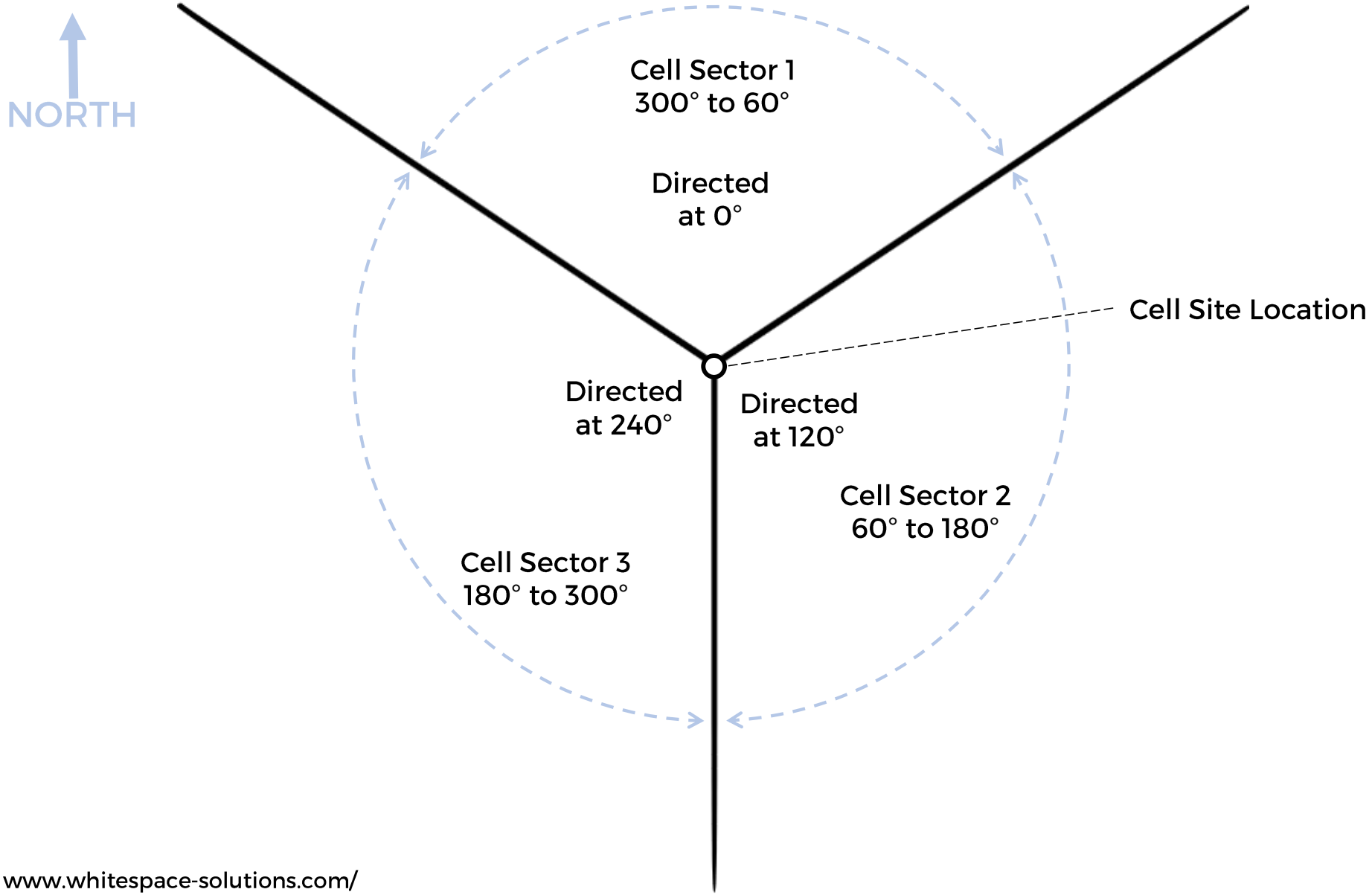
All cell sites in the simulation have three cell panels oriented toward 0, 120, and 240 degrees (compass).



Reading Cell Records in WORLDLINE ™

Cell data is composed of a record (i.e., a row) for each event that occurs for each device. All devices' activities are combined in a single file.

Unique ID of the Cell Sites

Cell Sites Coordinates

Phone Num and IMSI of the device for this record

ID's if the record is for a Call event, SMS event (texting), or a GPRS event

ID's if the device is the sender or receiver for the event

Tower ID	Tower Latitude	Tower Longitude	Event Start Time	Event End Time	IMSI	Phone Number	Event Type	Sender or Receiver	Participating Device	Cell ID	Cell Orientation
16477	39.30847	-76.5879	1430712000000	1431429622000	310026235021281	667-674-6524	GPRS			1	0
48968	39.33175	-76.6577	1430712000000	1431430551000	310170393909137	240-373-2941	GPRS			3	240
48968	39.33175	-76.6577	1430712000000	1431431219000	310490816926550	667-387-1919	GPRS			3	240
48968	39.33175	-76.6577	1430712000000	1431431276000	310480186267951	667-403-4607	Call	Sender	410-943-2761	2	120
16584	39.293023	-76.67737	1430712000000	1431431379000	310150846266097	443-820-5118	GPRS			3	240
16584	39.293023	-76.67737	1431425173000	1431425173000	310026908064115	443-894-0168	SMS	Receiver	703-441-2359	3	240
16584	39.293023	-76.67737	1431429296000	1431429296000	310026908064115	443-894-0168	SMS	Receiver	703-441-2359	3	240

Start time and End time of Events in epoch format, Start and End times are the same for SMS's (i.e., text messages)

ID's the other device involved in the event.

Cell ID Number and Cell Orientation where event occurred (see notes on GPRS events)

GPRS events, i.e. pinging the cell towers
- Have no Sender or Receiver info
- "Cell ID" for GPRS events is the sector where the device LEFT the cell site coverage area
- Event Start Time is when the device entered the cell site's coverage area
- Event End Time is when the device left the coverage area

Cell Network Coverage and Activity Detection in WORLDLINE ™

The cell network coverage in WORLDLINE ™ Vol 1, Iss 1 operates in a more simplified manner than coverage in real life.

1) There is only one cell network
2) Cell sectors are always directed at 0, 120, or 240 degrees
3) Cell site (i.e., cell tower) coverage areas do not overlap (devices only use the nearest cell site), so there are notional borders (— · — ·) between cell site coverage areas
4) GPRS events (i.e., devices pinging cell sites) in real life indicate devices' presence in different sectors of a cell site as devices move about, but WorldLine ™ GPRS events only register as a device exits a cell site's coverage area.
   For example, in WorldLine ™ the cell record of a device would only indicate that the device exiting Cell Site 001's area from Sector 1, then exited Cell Site 002's area from Sector 1, but not show that the device moved from Site 002's Sector 3 to Sector 2 to Sector 1.
5) Call and SMS (i.e., texting) events are registered in the particular Sector where they happen