

Short notice: Iridium telecommunication trouble on JAMSTEC's floats

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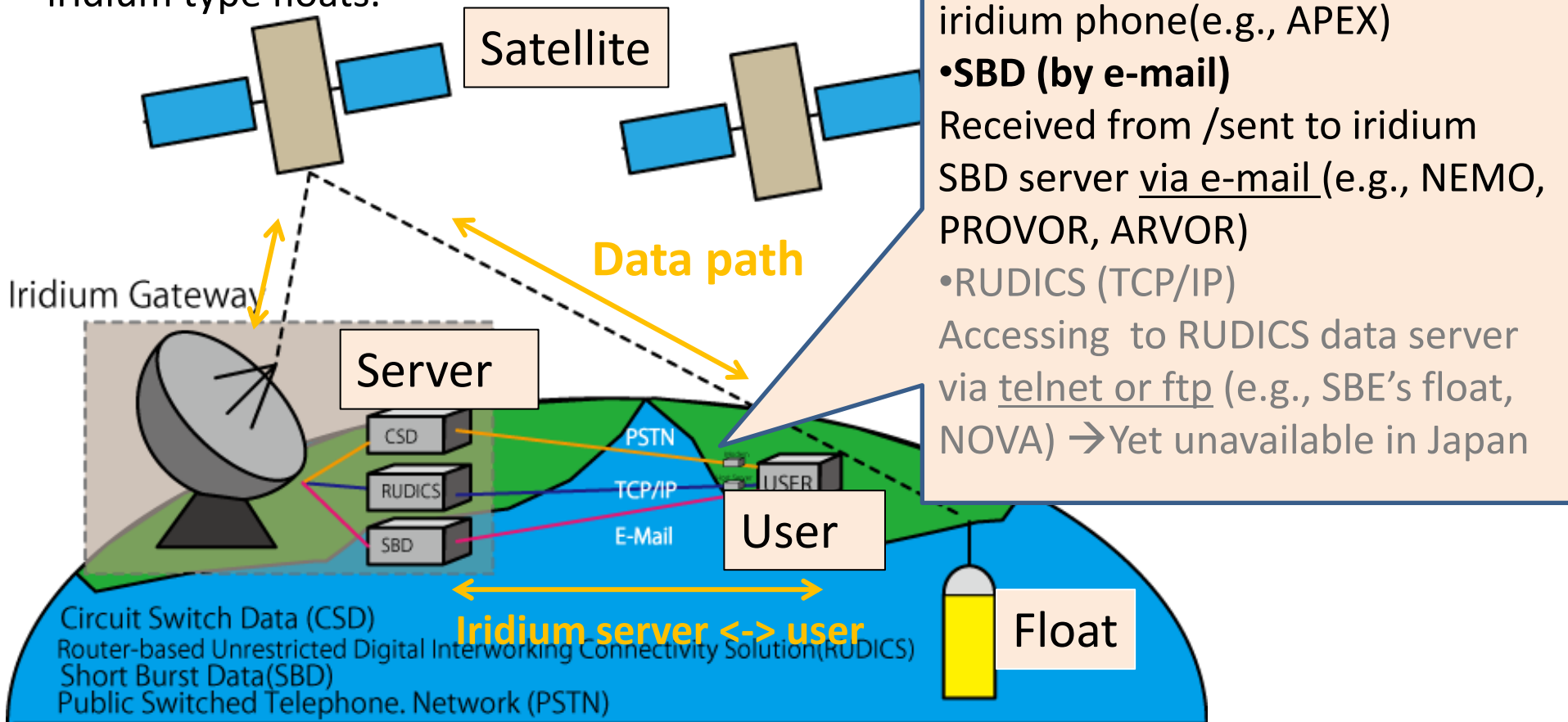
JAMSTEC experienced some troubles on iridium telecommunication (both Dial up mode and Short burst mode). Although the case of troubles might be only occurred in Japan, the situation may appear on the other implementers in the other countries.

The purpose of this short report is to share our trouble experiences with the other users of iridium telecommunication system.

Iridium telecommunication services for floats and those information path

Data path: float → satellite → iridium gateway (server) → users (for receiving data; vice versa if command sending)

For users, three services are available for iridium type floats.



Iridium telecommunication troubles on JAMSTEC's floats

Summary table of trouble experiences

* 代理店: イリジウム社の日本代理店を指す。

通信途絶期間 (推定)	フロートWMO番号	PI	観測周期	通信停止前最新通信日(JST)	通信再開日
2008/7/8~ 7/11(4日間)	2900673	JAMSTEC	10日	2008/6/30	2008/7/20
	2900681			2008/6/29	2008/7/15
	5901580			2008/7/8	2008/7/12
	5901581		1日	2008/7/9	2008/7/11
	5901582			2008/7/7	2008/7/9
	5901582			2008/7/9	2008/7/11
2008/9/20~ 10/6(17日間)	2900673	JAMSTEC	10日	2008/9/18	2008/10/3
	2900678			2008/9/10	2008/10/10
	2900679			2008/9/13	2008/10/13
	2900681		1日	2008/9/17	2008/10/7
	5901580			2008/9/19	2008/10/7
	5901581			2008/9/19	2008/10/7
2008/11/29~ 12/1(2日間)	5901582	JAMSTEC	10日	2008/9/19	2008/10/7
	2900678			2008/11/19	2008/12/3
	2900681			2008/11/26	2008/12/16
	5901580		1日	2008/11/30	2008/12/2
	5901581			2008/11/28	2008/11/30
	5901582			2008/11/30	2008/12/2
2008/12/14~ 2009/3/1(48日間)	5901580	JAMSTEC	1日	2008/12/30	2009/2/7
	5901581			2008/12/19	2009/3/2
	5901582			2008/12/13	2009/1/21
2009/4/6~ 7/9(65日間)	5901581	JAMSTEC	1日	2009/4/5	2009/7/10
2009/7/22~ 9/8(49日間)	2900673	JAMSTEC	10日	2009/7/15	2009/9/4
	2900678			2009/7/17	2009/9/6
	2900679			2009/7/19	2009/9/9
	2900681		1日	2009/7/14	2009/9/5
	5901581			2009/7/23	2009/9/2
	5901582			2009/7/22?	
2010/3/27~ 4/6(11日間)	2900673	JAMSTEC	10日	2010/3/17	2010/4/16
2010/10/19~ 10/25(7日間)	2900993	JAMSTEC	3日	2010/10/16	2010/10/23
2010/12/9(1日間)	2900993	JAMSTEC	3日	2010/12/6	2010/12/12

2010/12/24~ 12/30(7日間)	2900993	JAMSTEC	3日	2010/12/21	2011/1/2
2011/3/24~ 4/2(10日間)	2900993	JAMSTEC	9日	2011/3/13	2011/4/11
2011/10/1~ 11/13(44日)	2900993	JAMSTEC	9日 2日	2011/9/29	2011/11/16
2011/11/3(1日)	-	JAMSTEC	2日	2011/11/2	2011/11/4
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- From 2008 to 2011,
- 13 cases of unavailable services
 - Over 50 floats
 - unavailable for 1-65 days
 - Not announced in advance

1) Dial Up service

Situation: Service unavailable for a few month in some cases (fail to send command and receive data) → Finally we could get almost all profile data but uncontrollable during service unavailable.

Cause: By troubles in the data path between iridium gateway and users

2) SBD service

Situation: Service unavailable for just a few ten minutes at once → the data could not be received because the trouble was in the process of data transmission (depend on float specification).

Cause: Server trouble in the iridium gateway

Notice of iridium troubles for users

- Iridium telecommunication troubles were occasionally occurred on JAMSTEC's floats (Dial up service for APEX and SBD service for NEMO) and influenced float observation
- The causes of troubles might be on iridium server or on linking through data path
- Almost all data were finally rescued because of memory inside float except for SBD for NEMO
- Serious situation is considered in the case to need a lot of control of float. And also in the case of controlling Gliders