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##### #####, ## ##### ## ##### <[jkoshy@FreeBSD.org](mailto:jkoshy@FreeBSD.org)>

2013#11#07 ### #####.

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Version française de Frederic Culot <[culot@freebsd.org](mailto:culot@freebsd.org)>.

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1. ##### ..... 2  
2. ##### # # ##### ##### ##### ..... 3  
3. ##### ##### ..... 8

4. ##### ..... 14  
##### ..... 14

## 1. #####

## 1.1. ##### ####

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## 1.2. ##### ## ##### ##

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### 1.3. ##### ###### #### ##### ###### ####

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2.1. ##### ###### ####### ###### #######

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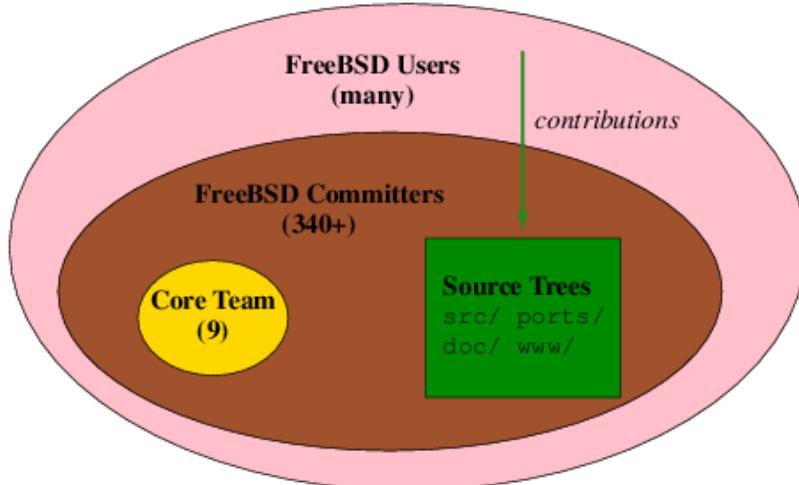


## 2.2. #####



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#####. #### committers ####.

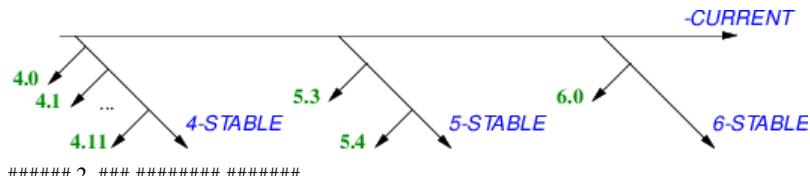


##### 1. ##### ##### ##### #####

## ##### (#) committers.

## ##### ## ##### ## ##### ## ##### [10].

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##### [14].

3. ##### ###### ####### ###### #######

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3.1. ##### ## ##### ####

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##### ##### (#####) ## ##### ##### ## ##### ##### ## ##### ##### ## ##### #####  
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#### [12]. #### (#####).

bde 2005-10-29 16:34:50 UTC

FreeBSD src repository

## Modified files:

lib/msun/src e\_rem\_pio2f.c

Log:

Use double precision to simplify and optimize arg reduction for small and medium size args too: instead of conditionally subtracting a float 17+24, 17+17+24 or 17+17+17+24 bit approximation to pi/2, always subtract a double 33+53 bit one. The float version is now closer to the double version than to old versions of itself — it uses the same 33+53 bit approximation as the simplest cases in the double version, and where the float version had to switch to the slow general case at  $-|x| == 2^{17}\pi/2$ , it now switches at  $-|x| == 2^{19}\pi/2$  the same as the double version.

This speeds up arg reduction by a factor of 2 for  $-|x|$  between  $3\pi/4$  and  $2\sqrt{7}\pi/4$ , and by a factor of 7 for  $-|x|$  between  $2\sqrt{7}\pi/4$  and  $2\sqrt{19}\pi/4$ .

Revision Changes Path  
1.14 +22 -97 src/lib/msun/src/e\_rem\_pio2f.c



#LINE	#REV	#WHO	#DATE	#TEXT
62	1.1	(jkh	19-Aug-94):	int32_t __ieee754_rem_pio2f(float x, float *y)
63	1.1	(jkh	19-Aug-94): {	
64	1.14	(bde	29-Oct-05):	double z,w,t,r,fn;
65	1.13	(bde	29-Oct-05):	double tx[3];
66	1.14	(bde	29-Oct-05):	int32_t e0,i,nx,n,ix,hx;
67	1.1	(jkh	19-Aug-94):	
68	1.1	(jkh	19-Aug-94):	GET_FLOAT_WORD(hx,x);
69	1.1	(jkh	19-Aug-94):	ix = hx&0x7fffffff;
70	1.1	(jkh	19-Aug-94):	if(ix<=0x3f490fd8) /* - x  ~<= pi/4 -, no need for - reduction */
71	1.1	(jkh	19-Aug-94):	{y[0] = x; y[1] = 0; return 0;}
72	1.14	(bde	29-Oct-05):	/* 33+53 bit pi is good enough for special and medium - size cases */
73	1.2	(bde	07-Apr-95):	if(ix<0x4016cbe4) { /* - x  < 3pi/4, special case with n=-1 */
74	1.14	(bde	29-Oct-05):	if(hx>0) {
75	1.15	(bde	06-Nov-05):	z = x -- pio2;
76	1.15	(bde	06-Nov-05):	n = 1;
77	1.15	(bde	06-Nov-05):	-} else {
78	1.15	(bde	06-Nov-05):	z = x + pio2;
79	1.15	(bde	06-Nov-05):	n = 3;
80	1.9	(bde	08-Oct-05):	-}
81	1.15	(bde	06-Nov-05):	y[0] = z;
82	1.15	(bde	06-Nov-05):	y[1] = z - y[0];
83	1.15	(bde	06-Nov-05):	return n;
84	1.15	(bde	06-Nov-05):	-}
85	1.15	(bde	06-Nov-05):	if(ix<0x407b53d1) { /* - x  < 5*pi/4, special case with n=+2 */

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4. #####

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