

Test Cases

Thursday, March 06, 2014
1:16 PM

Test initialization

Test special cases (Unconditional, etc.)

Test choice prediction

- Make the local and global prediction different, predict from local, then cause predict from global

Test Local prediction

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Indirect unused

Always taken - call, return, unconditional

Initial values - weakly taken

- weakly global

Tests - global outcome	gl
local outcome	loc
selector outcome	sel
global saturation high	gl-H
global saturation low	gl-L
local saturation high	loc-H
local saturation low	loc-L
selector saturation high	sel-H
selector saturation low	sel-L
Special Case (Predict Taken)	SC
Path History Indexing	PH

Ref	Outcome	Selector	Path History	old local ctr	local new ctr	global old ctr	global new ctr	mis/correct	sel ctr	Test
1	A Uncond	—	000000000000	—	—	10	10	T	—	SC
2	B Call	—	000000000001	—	—	10	10	T	—	SC.
3	C Return	—	000000000011	—	—	10	10	T	—	S.C.
4	1 Taken	global	000000000111	100	101	10	11	T	wg	g1
5	2 Not	global	000000001111	100	011	10	01	T mis	wg	g1
6	3 Taken	global	000000011110	100	101	10	11	T	wg	g1
7	1 Taken	global	000000111101	101	110	10	11	T	wg	g1
8	2 Not	global	000001111011	011	010	10	01	T mis	wg->wl	g1
9	4 Taken	global	000011110110	100	101	10	11	T	wg	g1
10	2 Not	global	000111101101	010	001	10	01	T mis	wg->wl	g1

9	4	Taken	global	000011110110	100	101	10	11	T	wg	gl
10	2	Not	global	000111101101	010	001	10	01	T mis	wg→wl	gl
11	4	Taken	global	001111011010	101	110	10	11	T	wg	gl
12	2	Not	global	011110110101	001	000	10	01	T mis	wg→wl	gl
13	3	Taken	global	111101101010	101	110	10	11	T	wg	gl
14	2	Not	global	111011010101	000	000	10	01	T mis	wg→wl	gl/loc-H
15	3	Taken	global	110110101010	110	111	10	11	T	wg	gl
16	1	Taken	global	101101010101	110	111	10	11	T	wg	gl
17	1	Taken	global	011010101011	111	111	10	11	T	wg	gl/loc-H
18	1	Not	global	110101010111	111	110	10	01	T mis	wg	gl
19	2	Taken	global	101010101110	000	001	10	11	T	wg→sg	gl
20	2	Not	global	010101011101	001	000	10	01	T mis	wg→wl	gl
21	3	Taken	global	101010111010	111	111	10	11	T	wg	gl/loc-H
22	1	Not	global	010101110101	110	101	10	01	T mis	wg	gl
23	2	Taken	global	101011101010	000	001	10	11	T	wg→sg	gl
24	1	Not	global	010111010101	101	100	10	01	T mis	wg	gl
25	2	Taken	global	101110101010	001	010	10	11	T	wg→sg	
26	1	Taken	global	011101010101	100	101	10	11	T	wg	
27	1	Taken	global	111010101011	101	110	10	11	T	wg	
18-28	2	Not	global	110101010111	010	001	01	00	N	wg	gl/PH
29	2	Taken	global	101010101110	001	010	11	11	T	sg→sg	gl/gl-H/PH
30	2	Not	local	010101011101	010	001	01	00	N	wl	loc/PH
31	3	Taken	global	101010111010	111	111	11	11	T	wg	gl/loc-H/gl-H/PH
32	1	Not	global	010101110101	110	101	01	00	N	wg	gl/PH
33	2	Not	global	101011101010	001	000	11	10	T mis	sg→wg	gl/PH
34	2	Not	global	010111010100	010	001	10	01	T mis	wg→wl	gl
35	3	Not	global	101110101000	111	110	10	01	T mis	wg	gl
36	4	Not	global	011101010000	110	101	10	01	T mis	wg	gl
37	5	Taken	global	111010100000	100	101	10	11	T	wg	gl
38	1	Taken	global	110101000001	101	110	10	11	T	wg	gl
39	2	Taken	global	101010000011	001	010	10	11	T	wg	gl
40	1	Taken	global	010100000111	110	111	10	11	T	wg	gl
41	2	Not	global	101000001111	010	001	10	01	T mis	wg→wl	gl
42	3	Taken	global	010000011110	110	111	10	11	T	wg	gl
43	1	Taken	global	100000111101	111	111	10	11	T	wg	gl/loc-H
44	1	Taken	local	000001111011	111	111	01	10	T	ul→sl	loc/loc-H/PH
45	2	Not	global	000011110111	001	000	10	01	T mis	wg→wl	gl
46	3	Taken	global	000111101110	111	111	10	11	T	wg	gl/loc-H
47	2	Not	global	001111011101	000	000	10	01	T mis	wg→wl	gl/loc-L
48	3	Taken	global	011110111010	111	111	10	11	T	wg	gl/loc-H
49	2	Not	global	111011101011	000	000	10	01	T mis	wg→wl	gl/loc-L
50	3	Not	global	111011101010	111	110	10	01	T mis	wg	gl
51	4	Not	global	110111010100	101	100	10	01	T mis	wg	gl
55-52	5	Not	global	101110101000	101	100	01	00	N	wg→sg	gl/PH
53	6	Not	global	011101010000	100	011	01	00	N	wg→sg	gl/PH
54	7	Taken	global	111010100000	100	101	11	11	T	wg	gl/gl-H/loc-H/PH
55	1	Taken	global	110101000001	111	111	11	11	T	wg	gl/gl-H/loc-H/PH
56	2	Taken	global	101010000011	000	001	11	11	T	wg→sg	gl/gl-H/PH
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55	1	Taken	global	110101000001	111	111	11	11	T	wg	gl/gl-H/loc-H/PH
56	2	Taken	global	101010000011	000	001	11	11	T	wg \Rightarrow sg	gl/gt-H/PH
57	2	Taken	global	010100000111	001	010	11	11	T	wg \Rightarrow sg	gl/gl-H/PH
58	2	Not	local	101000001111	010	001	01	00	N	wl	loc/PH
59	3	Taken	global	010000011110	110	111	11	11	T	wg	gl/gl-H/PH
60	2	Taken	global	100000111101	001	010	11	11	T	wg \Rightarrow sg	gl/gt-H/PH
61	2	Not	local	000001111011	010	001	10	01	N	sl \Rightarrow sl	loc/set-L/PH
62	3	Taken	global	000011110110	111	111	10	11	T	wg	gl/loc-H
63	2	Not	global	000111101101	001	000	10	01	T mis	wg \Rightarrow wl	gl
64	3	Taken	global	001111011010	111	111	10	11	T	wg	gl/loc-H
65	2	Not	global	011110110101	000	000	10	01	T mis	wg \Rightarrow wl	gl/loc-L
66	3	Not	global	011101101010	111	110	10	01	T mis	wg	gl
67	4	Not	global	111011010100	100	011	10	01	T mis	wg	gl
68	5	Not	global	110110101000	100	011	10	01	T mis	wg	gl
69	6	Not	global	101101010000	011	010	10	01	T mis	wg \Rightarrow wl	gl
70	7	Taken	global	011010100000	101	110	10	11	T	wg	gl
71	1	Taken	global	110101000001	111	111	11	11	T	wg	gl/gl-H/loc-H/PH
72	2	Taken	global	101010000011	000	001	11	11	T	sg \Rightarrow sg	gl/set-H/gt-H/PH