

If two only

2. $\left\{ \begin{array}{l} V \text{ @} \\ V R \\ V \Delta \\ V L \end{array} \right. + 12 \text{ bits}$
 25 25

9. in Exchange

IBM can decide between #3 & #2

or a scheme which includes these two.

(Brooks)

Scheme:

No immediate index modif. $w > 19 \text{ bits} \rightarrow$ dir. index mod gets 1 more bit

All index mod. instr. are indexable & take $\frac{1}{2}$ wd.

Four bit index addr.

All index modif. values are full wd \rightarrow dir. index mod. gets a 2nd bit.

All present direct index mod. ops.

New index mod. ops.

15 8	13 1	load L II from R(A)/L(A)
16 17	14 2	store R II at R(A)/L(A)
	19 3	Comp L II to L(A)/R(A)
	20 4	Add
	21 5	Sub
	18	dir + Br. to C(A) Δ

9. Incr. # by C(A) $\Delta C/mot$	C
10. Incr C(A) Δ compare	L
11. Comp II + Reset	R
12 Ct. + Br. C(A) + Reset	R

(32 max can be done)

in
 MISC. }
 format }
 Load IL immial R/A
 IR (A)
 Add IL " A
 IR A
 sub IL " A
 R A
 Comp IL " A
 R A

all ops with sign mod.

6.91%

other { 8.4% static
 7.3 dyn.
 2.5 time

Comparison of Schemes.

LA HW Compromise (5 bit)	LA FW	IBM HW (full word index)
(31) 5' Register bits Limited Ind and High Bit Eff. (<20%) Simplicity 64 floating op. (128) without geo. Index "shift"	6 bit. Full Index Indexing Imm. bit indexing Large vocab. Full capab. for string & math addr. Imperat addressing Dir. geometri 2048 Fl pt	Bit Eff gain <20% Global Indexed indexing 15 registers Simplicity 192 Floating Index "shift" Limited trans store
1 Branch 4 direct	1 Branch	1 Branch 8 semiindex 32

Full Wd, assume larger no. of index regs.

Preload
Poststore
Store + Load

Investigate full wd index (2' type) ~~is~~ ^{IBM} ~~limited~~ on 3,
1. 4 bit V, L, R
2. Full Wd.

Decision by Thursday

Los Alamos "2am" 5 bit code

1. FW

18

6

3

5

WA

BA

I

111

2.

FLPT

6

1

5

WA

18

OP

I

10

3.

Indx

6/3

7

1

5

WA

18

OP

I

01

4.

Branch

6

1/1

1/1

1/1

1/1

WA

18

Ind

I

101

5.

Dir

5

2

5

WA

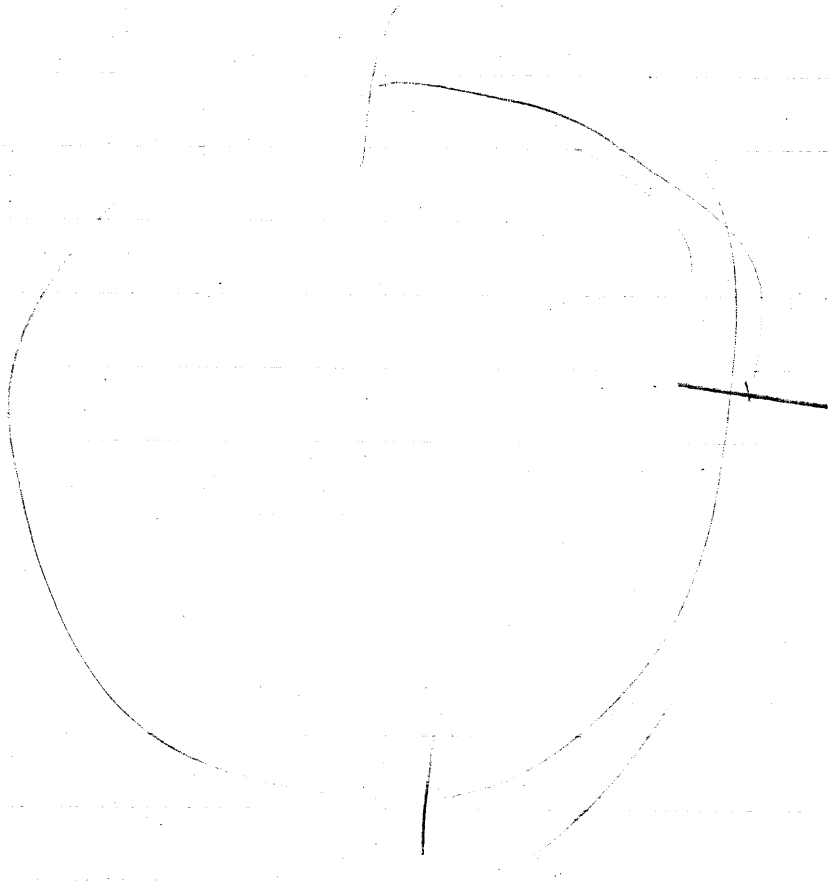
18

I

OP

I

00



SA

VI - lowest, time SA

People SA - Jobs as to the complexity

university education

highly complex

+ management

SA

highly complex

SA

X

at the end