1		FEI	DERAL TRA	DE COMMISSI	ON
2		I N	DEX (P	UBLIC RECOR	RD)
3					
4	WITNESS:	DIRECT	CROSS	REDIRECT	RECROSS
5	Rec e	4295	4347		
6					
7	EXHIBITS		FOR ID	IN EVID	WITHDRAWN
8	СХ				
9	No e				
10					
11	RX				
12	No e				
13					
14	JX				
15	No e				
16					
17	DX				
18	N be 14		4306		
19	N be 145		4347		
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The Reo d. I c. Wa d f, Ma d (301) 870-8025

1	UNITED STATES OF AMERICA
2	FEDERAL TRADE COMMISSION
3	
4	I he Ma e <u>r</u> f: )
5	Rab, Ic. ) Dice Mo. 9302
6	)
7	
8	
9	Th _1 da , J e 5, 2003
10	9:30 a
11	
12	
13	TRIAL VOLUME 23
14	PART 1
15	PUBLIC RECORD
16	
17	BEFORE THE HONORABLE STEPHEN J. McGUIRE
18	Chief Adii _ paie La Jdge
19	Fede à Tade 6 i b
20	600 Pe ᅕ aia A e e, N.W.
21	Wa hi g <b>o ,</b> D.C.
22	
23	
24	
25	Reorden Sae Bergig, RMR
	<b>F</b> The Recell I c. Wack $f$ , Marad (301) 870-8025

2

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3
     ON BEHALF OF THE FEDERAL TRADE COMMISSION:
 4
             M. SEAN ROYALL, A o _ e
             GEOFFREY OLIVER, A 💿 🔒 e
 5
 6
             JOHN C. WEBER, A o _ e
             MALCOLM CATT, A o _ e
 7
             Fede à Tade 6 i b
 8
             601 Ne Jere A e e, N.W.
 9
             Wa hi go , D.C. 20580-0000
10
             (202) 326-3663
11
12
     ON BEHALF OF THE RESPONDENT:
13
             GREGORY P. STONE, A o re
14
15
             STEVEN M. PERRY, A o _ e
16
             PETER A. DETRE, A o e
17
             SEAN GATES, A 💿 🧃 e
             M ge 🔐 🚡 e & Õ o LLP
18
             355 & h G ad A e e, 35 h Foo a
19
             b A ge e, Ca if , ia 90071-1560
20
21
             (213) 683-9255
22
23
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25
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B \_\_\_\_The Reo \_\_\_\_d, I c. Wa d \_\_\_f, Ma \_\_\_ a d (301) 870-8025

ON BEHALF OF THE RESPONDENT: JOHN GUARAGNA, A 💿 🚽 e Ga Ca, Wa e & F eide ich LLP 401 B S \_\_ee , S i e 2000 Sa Dieg, Ca if , ia 92101-4240 (619) 699-2900 a d A. DOUGLAS MELAMED, A o re Wi er C er & Picerg 2445 M S \_\_\_ee , N.W. Wa hi go , D.C. 20037-1420 (202) 663-6090 

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1 PROCEEDINGS 2 \_ \_ \_ 3 JUDGE McGUIRE: 60 d o rig, e e o e. ALL COUNSEL: 60 d o \_ i g. 4 5 JUDGE MCGUIRE: Thi heajgio io de 6 А ie ha e eedo ae hio<sub>f</sub>ig bef \_e 7 e ar? 8 MR. PERRY: No, No 1 Ho . 9 MR. ROYALL: No, No ha o 10 JUDGE McGUIRE: If • , he a hi ie • ai • ë a ca i e i e . 11 12 MR. CATT: b 1 b o 2 god o 1 i g. JUDGE McGUIRE: 60 d o \_1 i g. 13 Mā 🔊 Ca, ad I be 14 MR. CATT: Ι· eeige āi o è oda, ado ai 15 e ca D<sub>p</sub> We<sub>r</sub>e<sub>r</sub>Rece. 16 O ē 17 Ø 18 • ff he eo d. (Dic **b** off he po d.) 19 20 JUDGE MCGUIRE: Oa, e a e he e d, 21 a d o ai è a **e**rceed. ¢ MR. CATT: 16 1 16 0 1 e ca D. We re r 22 23 Rec e hi • 🕌 ig. JUDGE McGUIRE: A \_igh , i \_ o d o 24 eaebe o<sub>1</sub>ib heo 1 po 1 er 25

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1 Q. Tha ο. b apo c pr e o ed? 2 Wi h 3 ъ, cre e e eri Ifie Α. Teche qie A ja AG. 4 Q. Adi ha a bidia , of I fi o 5 6 Teche qie AG? 7 A. Ye, i i. 8 ha o creoiba I fio Q. A d 9 Teche o gie A ja? 10 A. S., creoibi a agig di ecor ad ice \_e ide of he iei Vi ach, i A \_ia. 11 12 Q. Do haea ie i deg ee? 13 Α. Ye, I ha e. 14 Ad ha a e he e deg ee? Q. 15 I ha eo e deg ee hich i e i a e o a Α. Ma e , Deg ee i è ec ica ad ba edica 16 e giee į g for he Techica Uieri i Ga, i 17 A ja, a d I ha e a Ph.D. deg ee for he Tech ica 18 19 Uieri i Michi Gera. 20 Q. K, Idie o, horgho, capera 21 Ifie A jaad Iaei 👍 👝 ha а Siee. Ca o ae he o aredorora 22 23 Sie e ? Wha ea a ha ? 24 A. S, I ared o e here i 1984, Marchor A ], i Vi ach, i A ja, ad he e di ec 25

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• M ich • Sie e HL a ha i e. 1 2 a ha o i b ? A d Q. ha 3 Ad he e I a e gaged i he de e o f Α. echolog  $\mathbf{b}$  to  $\mathbf{c}$  age CMOS a ica  $\mathbf{b}$  . 4 or ce 5 Adha a o re o ib? Q. 6 8, afe, hi, o e he e i he idd eo f Α. 1985, Inied Reeach & Deee e Laboranie i 7 8 ich, a e fer Sie e HL. М 9 Q. A d af e ha? 10 A. Afe, ha, i a 1987, I 🛉 i ed agai he Meo , Pordc Diib gor of Siee HL. 11 12 Q. A d ha did  $\bullet$  d he e? 13 8, he e I a red caperi he eor Α. 14 **e**γd c  $g_{\mathbf{e}_{\mathbf{f}}}$  ihe igothe  $e_{\mathbf{e}_{\mathbf{f}}}$  deice. 15 eof eo 🧹 de ice ? Q. Wha Sadad DRAM de ice, a dad a ica do 16 Α. 17 eo je . acce Ca o gie ea i e o e de a i o ha 18 Q. ha o r ac à i o ed? 19 20 8, heplhaeoi ee e Α. 21 orga, righorgh, ega, jeee o i g ā 22 he e i go f he eo 🕌 de ice. 23 Q. Wha did  $\bullet$   $\phi$  af  $e_{\uparrow}$  ha? 24 A. S, afer hi o ib, Ig ic paed 25 e o ibii i hi he Meor Pordc Diib

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 $g_{\mathbf{e}_{\mathbf{f}}}$ , ad he  $\bar{a}$   $\mathbf{e}$  had  $\mathbf{e}$   $\mathbf{e}$   $\mathbf{e}$  de ig  $\mathbf{e}_{\mathbf{f}}$ , ad a 1 heedofhi hae, Igo Jeo ibeto, he kore 2 6 - egabi DRAM orga adão 6 - heo e- egabi 3 DRAM. 4 Q. Ca o gie eā i eo edeaio ha 5 ha ea, be  $e \circ ib e \circ f$  he  $b e \circ g_{a}$ ? 6 A.  $\delta$ , I a i chage  $\delta_1$  he de  $\bar{e}$  o f,  $\delta_1$ 7 8 ea e, h i of he for egabi. I a e o ibe of height in order, and 9 6, he a -, adão haeo aecapofcoe, 10 • ai , if he pha e bee a . 11 Q. Wha did 💿 🕏 af e 🔒 ha ? 12 13 A. S, afe, ha, i 1996, I a a o i ed o be dieco of ordco aig brie eo rordc 14 15 diib brhe ordcb ar.

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he diffe e ordc i, ha idof DRAM, hich 1 2 de i, hich h, hich eef DRAM, ad i er 3 ofo, e had o defie heeee, baeae, ere e e , aejã e adcaiã e 4 5 Q. Dig he ie ha o e e i ha -- è, e ea hi: Ho q dido 6 o i b 7 а i ha o i b b -? 8 8, i ha e i b I a ed fer Α. e\_n f 1996 i Se e be <u>r</u>f 2001. 9 10 Ad he edid o of for he e? Q. A.  $\delta$ , i Oco be 2001, I a he e for 11 M ich • Vi ach, a d I a a • i ed • be he head 12 • f he i e i Vi ach i h c re • i b • be 13 14 a agig di eco ra dice e ide of he i e i Vi ach. 15 16 Q. Addig he ie ha o eedieco of ፍ dc 🖢 🗋 a ig, ha DRAM ፍ dc a Ifie 17 ac ā a fac į go dide? 18 A. S, i a -- i e, of de iie, i a 19 🚯 🕌 egabi, i a 16- egabi, i a 64- egabi, i 20 21 a 128-eqabi a d 256-eqabi DRAM i h a o 🗋 eo f h<sub>i</sub>, hich ea, **b**<sub>i</sub>e a e, 22 a e ice echoog a da he echoogie hich fo ed he 23 arericerad à erdie b, adà o 24 differe e of DRAM,  $\mathfrak{b}$  rea e, EDO de ice,  $\mathfrak{b}$  r 25

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ea e, SDRAM de ice a d a b b e da a a a e de ice. 1 2 Q. The e is ignifies icon ie. 3 Ca o gie eabe er der adige f ha ha 4 ea ? 5 A. S, S, ea e, if ea e a igabo a 6 arericer echolog, hi ea he a e die is, he are fea pieof hi echoog 7 8  $i \quad a_1 e_1 i e_2$ , hich igh be a die b, hich igh bea eghoradi a ceofa cerai ie, 6 r 9 10 ea e. Q. Ado e bedão ha e, "de i " 11 12 ieao. Ca o gie eabe erdecripof 13 ha ha ea ? 14 A. S, de i ea ha, S<sub>1</sub>ea<sup>e</sup>e, 15 5 \_ egabi DRAMo \_ 64- egabi DRAM, hi i diffe e de i of DRAM. I he be of ce, he be 16 be o echi. 17 ofitorato ha ca Oa. Mo, o eão ed he er "hi." 18 Q. è e ha a h į i? 19 • Ca  $\delta$ , a h  $\downarrow$  i,  $\delta$  rea e, he e  $\sigma$  for a 20 Α. 21 arericer echologo he e à erfea e ie, hich  $\bullet$  d be,  $\bullet$  rea e, 0.2-ice 22 23 echolog, a do he or ced pofogig for o e echolog o de o he e echolog o de i ca ed 24 25 • be a h i .

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1	Q. Ad ha he refahji, aide f $\mathbf{e}_{\mathbf{f}}$
2	gigfore o a à ero e?
3	A. S., he _ e of a h į i ai o _ ed ce
4	● i a fac jg.
5	Q. Ada a to fo to be a difeco p f
6	$\mathbf{e}_{\mathbf{f}}$ d c <b>b</b> $\mathbf{\hat{b}}$ $\mathbf{\hat{b}}$ $\mathbf{\hat{b}}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\mathbf{\hat{c}}$ $\mathbf{\hat{c}$ $\hat{$
7	♠d ci g DRAM ?
8	A. Ye, hi a a o o e fo <sub>1</sub> dai b i e,
9	$\bullet$ de $\ddot{a}$ in $\bullet$ ad $\bullet$ $\bullet_{\hat{L}}$ jector, e.
10	Q. Ado aido da h <sub>i</sub> i, he <u>p</u> ei o
11	ae $\alpha$ . Wa here $\alpha$ e $\alpha$ f $\alpha$ f $\alpha$ f h b a $\alpha$
12	acā oliga h <sub>i</sub> i, be chio oda
13	h į ?
14	A. S. e, e o dha e o g i o he diffe e
15	e hich age ece ago gd ceo fo fo fo
16	aeahį.
17	Q. Oa. Ado e pãigabo hediffe p
18	$\bullet$ . Ca $\bullet$ be $\bullet$
19	e pàigabe? Thi i gee à, e j b <sub>í</sub> a
20	h_į.
21	A. S., ge e 👌 he e a pe à ig abo o,
22	ehaeo o ide e o è o , ehaeo
23	$\circ$ ide $\alpha$ a $\alpha$ , ad the $\alpha$ of $\alpha$ ide $\alpha$
24	caià o.
25	Q. 0 a.

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A. Adhe ea\_e à igabe caià e, e 1 2 haeooide, b ch he caia e e di ei, cheodhaeo ediie e ,  $\mathfrak{b}_{1}$ 3 h ea e, i e de de he e hai gee a b, ad 4 he e ca a be ca ca e hi a e f h b ha e 5 6 eed j for he ord c is of he chi, ha o eed 7 10 e-ce of heie e of heo-igiã ac iib à e, b e a e, of fab, of a ord c b 8 9 i e. Q. Oa. Mo, o e boedaejão . Wha 10 eabae ja o 11 ¢ ¢ ? Maejão, frea e, appaedo 12 Α. diecaejā, hichioeea e, heo f 13 he iio, afe, hich i ed i he ordco 14 erce. An herie i a hen freegad 15 ectici, a of he of he gae hich hae 16 17  $\bullet$  be a ied  $\bullet$  he  $\bullet_{f}$  d c  $\bullet_{f}$ , hich a e ece a  $\bullet_{f}$   $\bullet_{f}$ 18 heeie. Q. Ad I hi o à o e io ed e o è 19 o . 20 Wha de ea b ha? A. 8, ep è o , 6 pea e, ap à a je 21 ad age  $\mathbf{b}_{\mathbf{1}}$  he  $\mathbf{e}^{\mathbf{1}}$  e hich are egaged i he  $\mathbf{b}^{\mathbf{1}}$  e 22 23 de e ad ordch orce, ada a reof hb, o ca, for e a e, ca c a e for e gieer 24 25 ha he  $\circ$  \$20,000 e  $\circ$  h,  $\circ$   $\overline{gh}$ .

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•  $\bar{a}$  •  $e\bar{a}_{1}$  is  $e_{1}$  e  $\bar{b}$  ed he  $e_{1}$ Q. I hi 1 "\_a - ." Ca o è e ha o ea b 2 ha ? 3 Α. 8, a -, defiint i he aig of he  $\mathbf{e}_{\mathbf{f}} d \mathbf{c} \mathbf{\dot{b}}$ , hich ea  $\mathbf{e}$  ce  $\mathbf{e}$  hae a  $\mathbf{f}$ 4 fchā a, he o hae o da he 5 6 • 🔒 i he ed c b faci i , i e e a a b î ca a o f 7 fab, ha he erd c b Q. Mo, Idieo foco o ho 8 I fi 🕤 or e ab ac ā i ee igadeig chage o i 9 10 DRAM , a d i ha e e hige hae e a • edge abe? 11 12 A. Ye, I de ha e. Ad **b** did **c** ge ha **c** edge? 13 Q.  $\mathbf{b}_{\mathbf{f}} \in \mathbf{a}^{--} \mathbf{f}_{\mathbf{f}}$ 14 Α. 🔋 i 1996, i h he 🏚 🕌 egabi, I a 15 1987 be ee 16 ão a orga a agea a di ha o ib, I hado 17 oda o ih -- he pe I had he po ibi o 🚽 jedeig chage ad haj adā odei ad 18 19 ie cha ge 🚯 🕌 he 🚯 👉 egabi DRAM. 20 ab i o joba di eco of ordco Q. He 21 ¯a ig? 22 A. Dig ha hae, he I a pe ibetor he ordcio a ig, Ião hado a a he 23 24 ie ie ad hebdge hich af ece af e i ee hecerai de i ie ad hri ad de ig 25

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1 chage,  $\mathbf{5} \rightarrow \mathbf{e} = \mathbf{a}$ .

2 Q. Apphepdiffepcaegpie of hediffep 3 eofchage ha Ificaiae oi 4 DRAM?

5 A. Yeah, heo e ca eo (, b (e a e, i a 6 h\_i, o ha he ai foc, he ai eee i o ord ce he die is o a erie io dero 7 8 ed ce he o, o he ai foc he e i o 9 echolog. Whe ease à igabo e de i, 10 ic pa e i de i , 🗗 je a 🗋 e, fog 16- egabi o 11 64-egabi, o ha e o cha ge he a chi ec pe a d he foo , a of he die, of he chi, hich i a 12 13 diffe e i dofo, ha ha o be de e. Adforea e, if o are gigo aea 14 chage i he eof he DRAM, for ea e, for EDO 15 DRAM • SDRAM, be ide he cha ge i he a chi ec e 16 ad he foo a a, o hae addib a o d a o 17 of de igo, ad hi ae pa a og ieo d 18 hi . 19

20 Q. S, o do -- i o ce e de ce, did 21 Ifio a e chage o a h da a he a e i e --22 do a h da -- hie he e e da iga h da a he 23 a e i e ha he o dbe a ig chage o de i 24 o co he e of DRAM?

25 A. Ma, op bab o. Sa, i a a o od

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1	• e e a a i e, beca e if • i • diffe_e
2	e, o igh $_{\hat{l}}$ io eee $e$ $e_{\hat{l}}$ $\hat{b}$ e, o fidig
3	o ha he pao b <sub>í</sub> o f còigi he chii.
4	Q. That a tite bi, o igh o fid he
5	ejĎe,i ha
6	A. S, i hecaeo aeo e ao e ie,
7	• hi igh ead • $e_1$ big $e_1$ be , ad $e_1$
8	ea e, if o e higi o o <sub>f</sub> ig, o do o
9	he here here echored is a critical the design in the second seco
10	o orig. S, i er diffic o fig po
11	ha pea goigo, ha pea goig og g
12	he_e.
13	Q. Oa. I hi è, a he ie e e
14	ofdciona age e e o i o edi he
15	decito-aigo <sub>f</sub> ce a o ha Ifio f p
16	•fdc i • ¯dbe?
17	A. I a i $\hat{\bullet}$ ed i he deci $\hat{\bullet}$ - a ig $\bullet_{\hat{i}}$ ce ,
18	$\mathbf{b}_{1}$ ea e, i he a ha a ea $\mathbf{e}$ ce a ea $_{1}$ e
19	haeo <sub>í</sub> pegic di c <b>ò</b> , ha i do fòre,
20	hich o <sub>f</sub> dci, a ha ie ea eogigo
21	$\mathbf{e}_{\mathbf{f}}$ dce, a ha $\mathbf{e}$ , a if ighe $\mathbf{e}$ , adhi
22	had bee $\mathbf{a}$ e $\mathbf{e}$ ge he $\mathbf{f}$ i h he head $\mathbf{e}$ f he b i e
23	i, ih he $\mathbf{e}^{}$ ef $\mathbf{e}_{\hat{1}}$ eigad $\hat{\mathbf{a}}$ e, ad
24	ão e, he quicto Taig po ibe e po
25	Q. Oa. Adbaedo o je e je ce a

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Ifice, e pe he pe ica diffe pe e i o ed 1 i i e e i g a de ig cha ge? 2 3 A. Ye. 4 Q. Adagai, baedo o reerie ce, o be e ge e à to a ica e de? 5 8, gee a eaig, o a a hae o 6 Α. 5° heaeoderofe, heae berof 7 8 е. Q. Ā jagh. Oa, o, I hi ha Idieo 9 10 de i ge hey gh he e , ad I beieee e papeda ide ha e pogigo eo he og 11 12 hergh he e, if I cage a e of ha. 13 Ma Ia Grach, & The ? 14 JUDGE McGUIRE: Ye . MR. CATT: Word o Tie a o ? 15 16 MR. PERRY: I hi a DX be? 17 MR. CATT: Ye, e ca gi e i a DX be THE REPORTER: **B** - **f** - **f** 18 19 JUDGE MCGUIRE: B - - 5 - ha ha I a 20 gigo a, o a. & o ed. 21 (DX E hibi N be 44 a a ed b 22 ide ifica **b** .) 23 BY MR. CATT: Q. À jgh, è, a iga he begi ig, ca 24 25 o oo a I hi he fighe e hee, he F \_ The Reo \_d, I c.

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iiiā deig, iā ab, ad ca o 1 de cibe **f** e ha each f **b** e ac ā ea ? 2 A. Yeah,  $\mathbf{\hat{b}}_{\uparrow}$  he i i ia de ig ,  $\mathbf{\hat{b}}_{\uparrow}$  e a e, he 3 • 1 b 1 he diffe e de ige 1 ha e • be ber e de 4 • he diffe e e ha ha e • be de ig ed. 5 S, o ce o ha e à o ca ed o de ig seo se o 6 7 he differe oic ad a i deigig he diffe e cipi, o ão haeo cai ab, 8 io de -- hi i o e idofi, à e he he 9 o de ig i o i g or e, o o r i he o ro. 10 Q. Kaida i a e ? 11 A. Ye. S, o odd ei he ha f he 12 i ab he he racifi i origore, b 13 14 hiio a or jae, o o da i ch be ero hae e i def e f a p hich i `aig he 15 16 beha i of he cipio a pedeigig. Q. O a . A d a e 17 ? A. S., a doceo ha e fi i hedo 🕌 i 🐂 a 🕏 18 • t, • ha e • p fe to tci f i de ig • a 19 pà hica o ie, o rea e, pecage, hich 20

1	p i o p
2	Q. Oa. Mo, baedo o <u>r</u> e e je ce a
3	Ifie, be gdid i a e ica , a e jedef
4	ie, f <sub>i</sub> Ifie e i ee heefi <sub>t</sub> h <sub>e</sub> e e
5	e e à edabo? A d'e a fora h j, a
6	ica e je de fie.
7	A. $\delta$ , for e e i e ce, he i e eded $\delta$ _
8	olig he de ig o <sub>t</sub> ot <sub>i</sub> a h <sub>i</sub> i i i he pageo f
9	i o h.
10	Q. Adho a egiee <sub>1</sub> o <sup>-</sup> dbeio <sup>-</sup> edi
11	ha 🖕 ce ?
12	A. &, • e ejece, he ii pipe
13	he pi fie de ig o e fie ao o e.
14	Q. Oa. Adfo <sub>f</sub> achagei de i , ho og
15	• d ha ica a e?
16	A. $eta$ , if $eta$ have $eta$ a chage i hede i ,
17	hi ae 🗙 🔩 gĥ 12 🖕 h, ad he papea
18	• phead • ha i ece a t. I i he pge
19	• f 50 $\bullet$ e, 50 de ig e $\hat{t}$ 50 a $\bullet$ $\bullet$ e. $\delta$ ,
20	$\bullet$ ca $\ddot{a}$ a $c\ddot{a}$ $c\ddot{c}$ a $e\bullet$ e de ig $e_{1}$ eed $\bullet$ $\dot{e}$ a $\bullet$
21	g.
22	Q. Oa. Adifo appaca chagig he
23	ee f DRAM?
24	A. $m{\delta}$ , he eapechagig he eof DRAM,
25	de e di go he cha ge hich ha o be o e, hi i

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he ageofio 120 h hich i ece a 1 be i 2 • de he • he e. Q. Adho a ore, eqiee or or dbe 3 i 🔂 ed i ha? 4 5 A. & -- eah, hi agai a ie be ee 20 o 50 6 e hich are ece are do hi, b if e are 7 aigachagei he eef he DRAM, i er 8 i ē ha o hae o goe, oo hee e i 9 addin, beca e he chi i o orig he fir 10 ie jgh. So, for e e je ce, h ee ede ig 11 apero o indigo. Q. Oa. No, opigo hee e, 12 13 e i fica io, baedo o ree i e ce a I fi o -e, e e a 14 • hi: Wha i e ifica b? A. Oce  $ha = d = \overline{a}$   $\overline{a}$   $\overline{a}$   $\overline{a}$ 15 hae e e if he he he a i o aco dig 16 • he ihe of he de ig • e, ad hi i ca ed 17 e idofco, -chec 18 19 he he he daig a e o re o digo he cipi a, o he ci pe i de ig. 20 Q. Adbaedo o reerie ce agai a Ifio, 21 b ogdidigee ja aeo i ee hi 22 е 23 fahi? 24 A. S., S. a h. j., f. e e je ce, hi i 25 he a geofoee. i

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Q. Adh a egiee o dbe pipedo 1 2 ha ? 0 - 0 3 8, i o e he e be ee o o fie o e. Α. 4 **f** a de i cha ge? Q. Wha alo 5 δ, • a e obigade i chage, i Α. he • e i e 6 ha i ge oporod, ad heppe i ae 😽 gĥ 7 t -r ee i . benefere bear eiged by 8 Q. Ad he 9 ha ? 8, he be of of o dbei he ae 10 Α. age, o o fie o e, beca e oo a e e 11 cao or i a à è. 12 13 Q. Ad **e** da e chage, a chage i he e 14 • f DRAM? MR. PERRY: K , k o , if I o do bjec , I 15 hi i ageo ā ab a cha ge i he eo f 16 DRAM a do gho be o pe ecific o he eo f 17 18 DRAM . JUDGE McGUIRE: S ai ed. 6 d e a e, 19 20 M Ca ? 21 BY MR. CATT: Q. Brea e, ca e -- e e bee à ig 22 23 e of DRAM, a d I hi o e io ed alo e. Ca o gie ea e aa bagai 24 diffe\_e 25 •f he e?

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A.  $\delta$ ,  $\delta$  reale, differe e of DRAM, he 1 2 ich for a EDO ar o a choro ar or abe for a choro are ad bedaa ae ar, o 3 hi o d efero a cha ge i eo f he DRAM. 4 Q. A d i he e a diffe e ce ica be ee if 5 6 eequiqfor -- a fara he ie ha i ae 0 7 he e if o e e opig for a EDO o a o d 8 SDRAM a o o ed o g i g for a SDRAM o a DDR SDRAM? 8, i ão heacifo g fo<sub>r</sub>o e 9 Α. 10 e • he e e. Q. À jqh. Le à abo opiq for a 11 SDRAM o a DDR SDRAM. T ica, b o godi 12 13 aeo de heejificate e for opigfor a SDRAM • a DDR SDRAM? 14 15 A.  $\delta$ , i i he ageof  $\delta$  fee. Adfer a EDO e a SDRAM? 16 Q. I or gh he a e a o o f i e. 17 Α. The ae,  $\overline{a}$  igh. Ad he a  $e_1$ 18 Q. ece  $a_{\uparrow} \circ \phi$  ha e? 19 20 I, agai, be ee o adfie o e. Α. 21 Q. Oa, e o he e ieo hei, 22 hich i a gee,aio, ad ca o de c\_ibe o e 23 ha o ea b a ge e a b? 24 gee\_a b, ce o ha e fi i hed A. &, а 25 o Tao, o haeo Ja fer heedaao daa

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hich a e ca ab e f , i g he a i g 1 2 eie. &, hi mibi oled jga 3 gee\_ab. Adi addib oo\_rordc da a, hich a eo he ao , o a o ha e o add e 4 5 rc e adaige od, frea e, hich ae 6 i be ee he chi hich a e he o he a . 7 Adao, forea e, if o are a igab 8 o e ad a ced echoogie, o a o ha e o 🧃 o e idofaddibāāg, jhio de to adj 9 he 10 da a hich have he  $\bullet$  be -i ed $\bullet$  he a . Q. &, ha, i fac, i a a ? 11  $\delta$ , a a i  $\circ \varphi \circ \hat{\gamma} = \varphi \circ \hat{\gamma}$  a egaie hich 12 Α. he o o j he jo po he i io. 13 Q. Adbe a a a e ica e i ed e de 14 15 a , ? 16 A. S., hi deed o he hai og he 17 echolog o de hich i ed, a d hi i i be ee 20 o 30 a e e , be o f a . 18 Q. À jgh. & , e agai og hor gh ie 19 20 e jad. De Ifie ac a erdceie ? a 21 Α. Ifi**e** ha ie a he, e. Ada ogole i geeja aeoobai a 22 Q. 23 fahi? а A. S, I o d ca i b o e a . B o he 24 25 iefae piedto e e ofa i i ee,

> **F** <u>↑</u> The Reo <u>↓</u> I c. Wa d <u>↓</u>, Ma <u>↑</u> a d (301) 870-8025

er għ. 1 2 Q. A d h ab f a de i cha ge? 3 8, hi i a he ac i e fac de f Α. 4 🖢 ha he ae be 👝 fa -he a а 5 a e e i ed. 6 He also goig for a charge for a EDO  $\circ$  a Q. 7 SDRAM e DRAM? 8 Α. ô, hi i agai he a e i e f∠a e, i 9 ee . 10 A d for a SDRAM o a DDR SDRAM? Q. 11 I i he a e. Α. ee ? 12 Q. Si 13 Α. Si ee , eah. 14 Q. Tha 0 . À jgh, e po o be<sub>1</sub>6, hich i 15 fir aferfabe o ri. Ca o de cibe o 16 17 e ha • ea b a fir aferfab? 18 A. Oce o hae he chio a ieceof a e , o hae he e e jf hi, ha hi i a e e jí ji 19 he pa ord, origo iio, adio dero 20 e if hi, o hae of he fir i io i he 21 22 afe fab. 23 Q. Adbaedo o reejecea Ifio, i papi ica pipedbet po ca do ha 24 25 fir r?

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A. S., baedo e e je ce, a o o f 1 2 papip of ha o be de before o car ad a, he fi, i io, he fi, afe, 3 Q. Ad ha e a a b i ica e i ed? 4 A. S, o hae o -- for ea e, o hae o 5 6 o ide ha o eed a o of diffe e . b 7 papheeie io dero -- o hae ha e e 8 a o hee ie ha o hae o do a e chig 0 9 ordeo in -- deo in orce i hee i e . 10 Q. Did o -- e c e e, did o a deo i io 0 --- ----11 12 A. Yeah, deo i he ao . 13 Q. Oh, o a . 14 S<sub>f</sub>b<sub>f</sub>hi. Ado haeoeoe he Α. he bogah e i e , brea e, ad 15 i ei hae o be defied part e o ce. Ad 16 hee e i addite o hi, o ha e o be a a p ha he p 17 ap ob addiffepeie ad o 18 ad differe e ece ar o defie he 👼 e 19 b fo hey gh he eyd cò facii. So, hi ha e 20 21 be e ad paped. Q. Ado for a hai, boo gdid ha 22 papi ica ae? 23 eaea he e, fe24 A. &, o 25 e e je ce, i e, gĥ h ee e h hich a e

> **F** <u>↑</u> The Reo <u>↓</u> I c. Wa d <u>↓</u>, Ma <u>↑</u> a d (301) 870-8025

ece an o da he papio on. 1 Q. Adha e giee o dbe pipedo d 2 3 ha eaab? A. &, for e e je ce, i fie o e hich 4 haeoda he ea ab or hee. 5 6 Q. We d he ie e je d be diffe je fe ja 7 de i 🗙 🚽 a e cha ge? 8 A. S., baedo hea is ha heei o 9 addibā deēo e or o bed ebr he 10 echologo for he a fac ig orce, hi i be he ae ie e 🏚 d, e. 11 We, he e a addite à de e e e, 12 Q. 13 ha de ea b ha? A.  $\mathbf{B}_{\mathbf{f}} \in \mathbf{a}^{2} \in \mathbf{c}_{\mathbf{f}}$  if  $\mathbf{e}$  i de  $\mathbf{a} \in \mathbf{c}_{\mathbf{f}}$  e 14 15 a fac jg ebd, o hi ae o e i e i o de f • de e hi. 16 17 Q. Oa. Ad $\mathbf{e}$  d he as  $\mathbf{e}_{\mathbf{1}}$  be he as  $\mathbf{e}_{\mathbf{1}}$  $a \stackrel{\circ}{e} b_{\tau}a h_{i} b_{\tau}a de i o_{\tau}a e chage?$ 18 19 8, he a c e to r he p p a p to o r Α. 20 io de co a of he ogi ic ad a е 21 odbe he ae, i he ageofhee oh. Q. Thee oh -- I a a ighe be of 22 € ~ e --23 A. I fie  $\bullet$  e,  $\bullet$  fie  $\bullet$  e. 24 Q. Fie e e, a jgh. 25

> **F** \_\_\_\_The Reo \_\_\_d\_\_I c. Wa d \_\_\_f, Ma \_\_\_ a d (301) 870-8025

1	8, he hi ęząża o čec, o d
2 •	he opo a dacã ob he fir ?
3	A. Ye .
4	Q. Adbaedo o <sub>l</sub> e e je ce a Ifio, ho
5 -	god Bid Bi ice fi <sub>1</sub> ae o <sub>1</sub> a?
<b>6</b> _ <b>1</b> a? 5	°og 6og h_ea?
e a ĮjT i e?	TjTafe faba 🍖 ghe i 3 🛛 A. Ye 8 Ye ee ?

1  $f_{0}$  he afe fab, o have a p ha he 2 chi hich a fo he afe fa for i go fe for 3 ο. 4 Q. S., do -- baedo o reejecea Ifice, i peapie geeja eeded before o 5 6 ca **q** ahead a d **d** ha e i q? 7 A. S. e, o hae o d ie o e e a a b 8 or. Is have pape he organ. Is have 9 • papao he orga to rhe ed dac 10 àgih. Es haeo papão o re Erhe aercer, ado ão haeo e o re 11  $q_{g_{1}} = b_{1}$  he e  $c_{1} c_{2} e$  hich  $a_{2} e^{\overline{a}} \circ \circ$  he 12 13 afe\_\_\_ Q. Adbo og de hi papi ica 14 15 ae, o d he paping the e igof he fi, iio 6, a h i? 16 17 A. S, for e e je ce, i a e o h je • h • - cha gi g a d adj i g 18 hee orga hich a p p i p d f f e i g f he fi f i i e . 19 20 Q. Adha e giee , o dbe i o ed i 21 ha **e**rce ? A.  $\delta$ ,  $\delta$ ,  $\delta$  hi i  $\delta$  d be --  $f \circ f \circ f$  e e ie ce, 22 i i be ee fie -- i fie 🔊 e. 23 24 0. Ь alo • paped eighta de i chage, **b** o go d ha ica a e? 25

> **F** \_\_\_\_The Rec \_\_\_d\_I c. Wac \_\_\_f, Ma\_\_\_a d (301) 870-8025

1 A. S., he paping to fade i chage 2 i o por o apdo heorobedeo a h i . & , f a de i chage, o i eed i 3 oh for e e je ce a do je ha ha i o je r 4 • 🛦 ā he 5 pa à b o r. 6 he e e e e i e e d i e i g ha Q. Wh i 7 idof papipa? 8 A.  $\delta$ ,  $\delta$  reale, a ic paei de i, he 9 e haee of for 16 of 64 egabi, o hae o ae 10 pe ha o peigeie i caabeofolig headdibia o<sub>f</sub>, b<sub>f</sub>iea a e o 11 a ed o he e be e a di ão e i e 12 ha haeachagei hea-chiec - e hich à o 13 0 14 affec he rc eof he e orga Q. Adha e giee <sub>1</sub> o dbe i o ed i 15 16 dighe papi by ha -- by eigby 17 de i ? A. Icaea ei hede i i i he ageof 10 18 • 20 • e. 19 Q. Gigfor EDO o SDRAM, b a -- b o g 20 21 odhe ea ab aeo ae ha o e, o 22 papor he e igof he fir r? 23 he papi or brgigfor EDO o A. &, 24  $ch_{ch} \circ ch_{ch} \circ ch_{$ • he ie fae, i • h . 25

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Q. Adha a o`eo`dbeio`edi ha 1 2 o<sub>f</sub>jec ? 3 A.  $\mathbf{E} \rightarrow \mathbf{EDO} \circ \mathbf{SDRAM}$ , a  $\mathbf{e}_{\mathbf{r}}$  ghe iae --  $\mathbf{e}_{\mathbf{r}}$  gh por ector eo, i he pageo fe or e. 4 5 Q. A d for SDRAM o DDR SDRAM? 6 8, a fa<sub>1</sub> a I e e be<sub>1</sub> i a a<sup>-</sup>i<sup>-</sup> e bi Α. ā o errie, b 7 he ae iefae. • e ha e 8 Q. The ae, i • h ? 9 Α. Si o h . 10 8, he he paping i e ed, he ¢ Q. • he  $\phi$  • ad  $\phi$  he e igad afe f • be 11 i er? 12 A. Whe o hae de a he pape or, 13 14 • a • eed • f • be ca f. Be ide he e 15 orga, o ão eeda ea o o aco rafer ad hi i de eb afer erbe card, ad hi a e 16 17 ha o be paped. 18 Q. Adi ha eaeda Ifie?  $\mathbf{k}$ ,  $\mathbf{e}$   $\mathbf{\hat{a}}$  b hif  $\mathbf{e}_{\mathbf{\hat{l}}}$   $\mathbf{e}$  ide. 19 Α. 20 Oa. S, e à ab heac à deige f Q. 21 he e igo a o o edo pajgo, he 22 e i g. h o g, ba edo o je e je ce, did he 23 ac à e igad afer e be icà a e bra 24 25 h i ?

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A. S, S, a h, i i he ageofo 1 2 ee . Adbe a egiee , o dbei o edi 3 Q. 4 ha ? 5 A. &, & , dig hi o, , i be ee o ad 6 fie e e. 7 Q. Ad fade i chage, b e god ha 8 e igad afer orbe a e 6 r ha? A.  $\delta$ , agai, i  $\circ \rho ef \delta_1$ . I  $\delta_1 ee$ 9 10 ie hich i eeded  $\mathbf{b}_{\mathbf{1}}\mathbf{c}$  ig he de i ic  $\mathbf{c}_{\mathbf{r}}\mathbf{c}$  a  $\mathbf{b}_{\mathbf{1}}\mathbf{c}$ he fi , or be. 11 Q. Ad he be of e? 12 13 The be of of ei be ee o adfie Α. € e. 14 Q. Adogigfor EDO o SDRAM, bo o go d 15 16 ha e i g a d afe , o be a e? 17 A. Yeah, he e ig **b** f he fif f a i he ageoffore, ad he be of o eii 18 be ee o adfie o e. 19 20 A d f er SDRAM e DDR SDRAM? Q. 21 A. I a he ac icfac. I a for ee ad oo fie o e. 22 , be 80 0 i i a e b. Ca 23 Q. N è e ha e ea b a e b? 24 0 A.  $\delta$ , o ce o hae o  $\neg$  i io,  $\delta$   $\neg$  e a e, 25

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di ided a d diced,  $\mathbf{o}$  ha e  $\mathbf{o}$   $\mathbf{e}_{\mathbf{f}}$  ide  $\mathbf{o}$  e  $\mathbf{e}_{\mathbf{f}}$  ec i e 1 2 Tae, ad hii hea eb 🔥 🔥 ce. The e he io io e edbañ do o dio de ro 3 ereche iie. 4 5 Q. Adi papi pipedbeti po ca g 6 ahead a d  $\mathbf{a}$  a e  $\mathbf{\tilde{b}}$  ? A. Agai, o eed a o of papio o<sub>1</sub>, 7 hich i i a e he pape of ha ha o be 8 9 de i he afe fab. 10 Q. Ca o gie e o e o e de ali o he e o f ea a bore à igabo? 11 A.  $\mathbf{E}_{\mathbf{f}} \in \mathbf{a}^{-1} \in \mathbf{a}$  has  $\mathbf{e}_{\mathbf{f}} \in \mathbf{a}^{-1}$  he 12 e  $\mathbf{b}_{\mathbf{f}}$  hee i e . Oe ea e, he die  $\mathbf{b}_{\mathbf{f}}$  de 13 14 ha  $\bullet$  be called  $\bullet$  a e he afe a, hich i • e higieaa, i i idicae hee hee de 15 ad he bad chi a e o ca edo he afe ad eo 16 a o ic hegod chi for he afer hich ha e 17 o be a e b ed. That o e o b e hae o d. 18 Sec  $\overline{d}$ , c has c  $c_{f}$  ide he c  $c_{f}$  ec  $\overline{c}$  ead 19 faet, heore o digchi. & a o hae o 20 ae p hat here he to ig hich i ece at 21 ad e i ed for he be a eb or ce i i ace 22 he o appigo , hea e b. 23 Q. Adh ogodha ae-- ica ae, 24 ha eaab brahi? 25

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1	A. I deed o heie o hae o chage.
2	$\delta$ , $\delta_1$ eate, he pape $\delta_1$ $\delta_1$ geiga e
3	Tead fractia tea hape o h.
4	Q. A d <b>b</b> a egiee $f$ od be eeded d $i$ g
5	ha <b>e</b> îce ?
6	A. The $e_{1}$ ce $b_{1}$ he $e_{2}$ $a_{2}$ $b_{1}$ , he $e_{2}$
7	$\tilde{i}$ be, $\mathfrak{b}_{\mathfrak{l}}$ eiig acage, fie $\mathfrak{e}$ ece a $_{\mathfrak{l}}$
8	• de hi.
9	Q. No, o aid e i i g ac age . Wha od o
10	ea b ha?
11	A. Thi ea ha e ca ae a ac age hich i
12	$\bar{a}_{p}$ ead $\bar{a}_{p}$ ified a da $\bar{a}_{1}^{i}$ $\bar{a}_{2}^{b}$ e i $e_{1}$ d c $b$ .
13	Q. A • • ed • a • ā ified ac age?
14	A. $\mathbf{F}_{1}$ eate, e g bac a f ef ea <sub>1</sub> .
15	The $p$ , he TSOP ac age a he a dap ac age, a
16	he ai o e ac age. So, if e oo o eo f he e
17	acage ibc chagig hedie is adhe be $_{1}$
18	$\bullet$ f i $\bullet$ f hi ac age, he ef $\bullet_1$ $\bullet_2$ ge he e $$ ead
19	fae a i he ageoffie of eadheeoh.
20	B if <b>e</b> a <u>p</u> à ig e da, a be e ee a
21	ich o BGA ac age, o i o de to ha e hi
22	acagei $e_{f}$ dc $b$ , $e$ hae $e$ $d$ $e$ R&D $e_{f}$
23	be <b>f e</b> , hich igh a e i e <b>e</b> hich igh a e
24	a og i e.
25	Q. Ca o gie ea ideaof ha o ea ba

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"• q i e"? 1 A. Yeah, he I peeberbac o or ih he 2 6 regabi, here a a raib for he SOJ 3 acage 👩 a TSOP acage, a d 👩 ge he fi 🔒 TSOP 4 acage ad igi ordcb, i oo ao 🗋 e 5 6 of ea. Q. Adh a e e e e jige ha 7 8 erjec ? A. A ha ie, he  $\hat{\mathbf{b}}$  e bac -ed de a, e, 9 he de are hich a e o ib e forde e of 10 e acage, a egaged i de ig hi. 11 Q. The  $\mathbf{b}$  e de  $\mathbf{a}$  e ? 12 The b e de  $a_{f}$  e , e. 13 Α. 14 Q. Ca o gie ea ideao f ha o e ha • d be? 15

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Ade a a e acage a piped. 1 Q. 2 8, if a e acage i e i ed, hi ca a e Α. 3 o o eof ea. Q. Oa. Adho aho -- o`d he be<sub>r</sub>, 4 he ie e ad o , he o e be a diffe e 5 **b** \_\_\_ a 6 chagei he eofDRAM ha forde i ? 7 A. S., agai, i he a e baic pieo paic 8 a **b**. If **b** haea ei ig ac age, he paab or ad berof o e pipdi he 9 10 aea diga h<sub>i</sub>. If o haeo icho a e acage, o o ha e o da ão of de e o -11 12 he\_e. 0a. No, ce he peapato i fiihed 13 Q. 14 gaheado da hea eb, boog da e i a d o gee à aeo de heaeb to rah ja 15 ? 8, ie e ied 6, hi i i he ageof 16 Α. 17 hee ee **b**ood ig hi. 0 0 Adb a e e e e dbe e i ed? 18 Q.  $\mathbf{E}_{\mathbf{1}}$ ---- i be ee o adfie o e. 19 Α. 20 Ado dhe ie pipedbe a diffe pif Q. e poligade i chageo fa e chage? 21 0 22 8, baedo hea io hao ca ae Α. ig acage, hi i be he ae iefae. 23 еi а 24 Meaig o o h ee ee ? Q. 25 To o hape ee, e. Α.

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Q. Adifo hado o o adiffe e eo f 1 2 ac age? 3 A. If o ca e he a e -- differe eo f 4 ac age? 5 Q. Ye. Thi ca ae-- he ea e a o ii. 6 Α. ch ge Mabe ice he i e. 7 M ch, Q. À jgh. Ad he ac ere ied, o d 8 ha be ica he are  $f_1$  a de i chage  $f_1$  e 9 10 chage a 6 , a h i ? A. I er i e ha er be a e e i g 11 12 ihae acage, ad he he be no f head o e ied forde ig hi i a o o eo re i i i ed. 13 Q. Oa. The e o o 🕇 i 14 i e a d 15 b<sub>1</sub>-i. Ca o de c<sub>i</sub>be ha o ea b e ad b \_\_\_\_i ? 16 A. Yeah, I o die o fefero bri fir, 17 i beca e he e e -- he e big e afer 18 19 a e b i de ig he  $b_{1}$ -i of he de ice, ad o hae e à e jig e ad jig 20 21 erga, hee e he de ice i h high e e a e ad à à highe o age. 22 Q. High age ? 23 A. 🖌 age, eah. 24 25 Q. 0 a.

> **F** \_\_\_\_The Rec \_\_\_\_d\_, I c. Wa d \_\_\_\_f, Ma \_\_\_ a d (301) 870-8025

1	A. E face fai ao of ie.
2	Q. $\overline{A}$ _igh. A d af e $_{1}$ he b $_{1}$ -i, ha he
3	e igi  e?
4	A. $\delta$ , i afe heb $1$ -i, $\circ$ $\bar{a}$ $\circ$ has $\circ$
5	🛦 he e ig. U 🚡 💿 🛦 a e ig a high
6	e e pe, ada ha ieo ão apodig he
7	eed $\mathbf{e}_{1}$ $\mathbf{e}_{1}$ i $\mathbf{\hat{e}}$ i h he de ice , a d i
8	addib o hi, o ão de a e iga o
9	e e p p, f rea e, m e e p pin de ro
10	chechehet he at i $\mathbf{e}_{1}$ is a a ecified
11	e e p p a d ecified o age, o i diffe p
12	iig ad iig e .
13	Q. Adi ę a ę i ęd beb ę o ca od
14	heb <u>f</u> -i ad he e ig?
15	A. Ye, agai, o eed a of papio o <sub>1</sub> .
16	$\mathbf{B}_{\mathbf{f}}\mathbf{b}_{\mathbf{f}}-\mathbf{i}$ , o has o of ide $\mathbf{a}$ he of $\mathbf{g}_{\mathbf{f}}\mathbf{a}$ of $\mathbf{f}_{\mathbf{f}}$
17	heb <sub>f</sub> -i e, hich a pe i à e e
18	$\mathbf{e}_{\mathbf{f}} \mathbf{g}_{\mathbf{f}} \mathbf{a}$ . If has $\mathbf{e}_{\mathbf{f}}$ ide $\mathbf{a}$ he $\mathbf{e}_{\mathbf{f}}$ if $\mathbf{f}_{\mathbf{f}}$ he
19	b <sub>i</sub> -i e.Kohaeo ae pehao
20	${f e}_{1}$ ide heb $_{1}$ -i ${f b}$ a ${f a}$ , he a ${f e}_{1}$ , ${f i}$ a e o c e ,
21	ado haeo ae pe ha heb <sub>l</sub> -i e ap
22	ad <u>í</u> ig.
23	Adforeig, o hae o ae pe ha he
24	e og ga a ga a a a a a a a a a a a a a a
25	• ae pe ha à • heie hich a pic ded

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ih heoce i à o a ai ab e o 1 e 1 2 e i e . ica a e ba edo 3 Q. &, b to gode i • reejece • de he papie, e adbr-i 4 5 fahi? 6 A. S, S, a h, , he paab o, i 7 ae hee o h. a egiee o dbe e iedo 8 Q. Adha 9 • 10 ha? 8, for e e je ce, hi i be fi e 10 Α. € e. 11 Q. We d he pe be a diffe pe ce i he i e 12 13 epidio daeo papora e adbr-i 14 if e e e de i ga de i cha geo a e cha ge? A. S, i i e, i è ha o eedo e i e 15 16 broighe parts or hep, obrighe ega, o i ed ihioh ba 17 е 18 he e org\_a. 19 Tha to a de i --Q. 20 De i ic\_peae, e. Α. 21 Q. Ada e cha ge? 22 Ad he cha geofe, i agai he a e Α. iefae, i -- did I a i ee o<sub>1</sub> i o h? 23 24 Si Q. 0 h o --25 Α. Si • h, e, i • h.

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Q. Adhe be no fe no è ha o dbe 1 2 pipedo do heoro -- torade i --3 para brade i ora e chage? 4 A. &, for e e\_ie ce, hi i i he a geo f 10 • 20 • e. 5 6 Tha for de i a de cha ge? Q. 7 Α. The e chage, ad he e chage i e 🔒 8 i ē o eedee of porte, op head o, 9 beca e he erofe haeo chage addib a o ic i o de o aco i h he e og a. 10 Q. Oa. &, he e ac ā e aheadade 11 12 he e adb<sub>1</sub>-i, i he e a ica ie e jadi 13 ae o o hor gh ha erce to rahi? A.  $\delta$ , a  $e^{\hat{b}}$ ,  $e^{\hat{c}}$  a  $d^{\hat{c}}$ -i  $\hat{i}$  be i he 14 15 ageofheeofore. Q. Adha e giee o dbe e iedo 16 0-10 ha ? 17 A. Erdig herea or here, i be ee o 18 adfie 🍖 ेe. 19 20 Q. Ad **b** d i g a de i chage, ha o d he ie e ja d be f , ha ? 21 22 A. Yeah, ba edo he a io ha he ha e a 23 eiig ac age, i agai hee o for ee ie e ied for dig hi ad o o fie o e. 24 Q. Ado di bea differe 6 a e 25

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cha qe? 1

25

A. Ūe o haea addibā orbe, hi 2 3 o dbe he ae iefae. 4 Th\_pee o --Q. Thee o b ree ad o o fie o e. 5 Α. Oa. Ne o o i i a e bead e 6 Q. • de c\_ibe ha • ea b 7 ha ? 8 A. S, af e fi i hig i h he a e, o hae  $\overline{o}$  e  $a_{1}$ ,  $\overline{o}$  hae  $i\overline{g}$  e  $\overline{o}_{1}$  de ice hich 9 hae o be a e b ed o à j ed cipi 10 he o Koheb, Kreale, eor 11 ba\_d. 12 e a 🐌 hich a e eeded i o rPC, i o r e o ā e e &, hiide ei hea e b, 13 he e i qof he o d e. 14 Q. Oa. Adbaedo o te e je ce a 15 Ifie, i papie gee à piedbet po 16 he o d e ? 17 ca oprimer and a da e beade 18 A.  $\delta$ ,  $\circ$  has  $\circ$  as  $-\rho$  has  $\circ$   $-\gamma$  PCB,  $\circ$   $-\gamma$ 👍 ed cipi kad, apaaiābeadi 🗋 ace, o 19 20 a b before ide. Ade ão hae 0  $\bullet$  as -e ha  $\overline{a}$  of he e  $\overline{b}$  he ic ad 21 🗋 ace achie i a al ab e, a d o ha e o a e 🕞 e 22 ha à o q e og pa b phe o d'e e a p 23 a ai ab e. 24 Q. Adbrahj, ica boogodha

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a e? 1 A. 8, 6, a h i, hi i a e i he a ge 2 of o ee fo<sub>f</sub>dig hi. 3 Q. No dhe ie e je dbe a diffe je fo ja 4 5 de i • , a e cha ge? 6 A.  $\delta$ , he  $\circ$  are digade i  $\circ$  r e 7 chage, hi i o pefo o d, ad he po po 8 eed of gh to ree . Q. Ad o dhi be beigode b I fi o 9 10 en eon di bebeigdebao ide 11 • a ? 12 A. S., hi deed o he ordc. S., 5 roe e, ehae he caabii ie i - b e, ad  $b_{10}$  e 13 14 e, ehaeobio -bee. Q. Ca o gie ea ea eo f he eo ca 15 o i −h e? 16 A. So, a da al eo , o d'e, a da al DIM 17 • d e, • rea e, ca be a e b ed i Rich• d, 18 Vigiia, beca e a hitoca i e a o ha e 19 bac -ed ca abi i ie, bac -ed  $\hat{\mathbf{o}}$  e  $\hat{\mathbf{b}}$   $\hat{\mathbf{c}}$  oo e a  $\hat{\mathbf{c}}$ 20 F & T hRee of dI c.? a eb, o e a e igadão b e e do co 21

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A. S, S, dig hi, o o fie Seaf 1 eeded o de hea e b ad e igo f he o de. 2 3 Ado d ha be -- ha to a h i? Q. 4 Thi i **b** a h i , e. Α. 5 Ь ab **5** a de i cha ge? Q. 6  $\delta$ , he  $\circ$  a  $\rho$   $\delta$  igade i chage, he Α. 7 be of o ead ief ae piedião he ae, o i o o fie o e, ad forde i , he 8 ie o dbe a i e bi o e. I for ee. 9 10 Q. Oa. Adifo e-pechagighe e, for i ace, he o e e i ord cig SDRAMo r he o 11 e e e i g SDRAM, la a o e d be e i ed? 12 13 8, 5 diga echage, i o o fie Α. 14 e e, ad he iefaeb dig hi, i b r 15 ee . Q. Oa. Oa,  $oafe_{1}o$  e be he 16 17 \_\_ea\_ab ado og aheadadod hea eb a d he e igo f he o de, b o g de hea e b 18 igo f heode ae ica 19 ð ₋₁a ad e hi? 20 8, 6, a h i , i o Α. ee 21 Oa. Adh a e e? Q. • • fi e • e. 22 Ι Α. 23 a o al pleapèceatoro ep Q. Ι c ea 👝 e is befige. I a a ige 24 bet \_\_e e a igo ac à og aheada dob he 25 alo

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a e b ad e ig. We e de adig e o be 1 2 a i g ab ha ? 3 Α. I on, here igh be a i a ch. 4 Q. Sorr, I he gh ha igh be he ca e, eah. Frhefigre I a à igabo before, I 5 a iqh o qi a e o ac a qe \_ead o 6 а hea eb, e e ac à de hea eb 7 ¢ i ēf. 8 We, he eaab o fo fo ig he 9 Α. 10 еЪ \_\_\_ а 11 Q. The  $e_{a_{\hat{l}}}$   $\bullet_{\hat{l}}$  he, e,  $\bullet_{\hat{l}}$ . 12 -- he papie o i orgh h pe Α. h. 13 0 14 Tha that? Q. 15 Brahi, e. Α. 16 Q. Adi ha diffe e fade i chage? A. **B** a de i cha ge, ba edo he a b 17 eeiig acage, i he a e ie e ied. 18 0 Q. Oa. Ad  $\mathfrak{b}$  a chage i e,  $\mathfrak{b}$  e a e, 19 20 e<sub>r</sub>d ciga SDRAM? i 21 Α. Tha he ae, he ae ie, h ee o h 22 paab. Q. Ad he ber o gae e bebre bri he 23 24 diffe e -- to dig he have e e e o o fie e gi ee f. We d ha be f he be diffe p, 25

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igabo papio? a 1 2 papi, hi io a. Α. No , 3 I he ae, i o d be o o fie? Q. 4 Yeah. Α. À jgh. &, o, e ge baco o re 5 Q. 6 • acā deighea eb ade igi ēf. 7 h<sub>i</sub>, bogodi ica aeo А 8 ac ā de hea eb ad e igo fao de? F<sub>1</sub>ah<sub>i</sub>, hea ebadeigi o 9 Α. 10 ee . 11 Q. Oa. Ad a e e e i ed? I o o fie o e. 12 Α. 13 A d **b** a de i cha ge? Q. 14 Erdigade i chage, he ie piped Α. 15 **b** a e b a d e ig, i **b** a e e • Adha a e e? 16 Q. I o o fie o e. 17 Α. Q. Adforda e chage, for i ace, or igo 18 19 SDRAM? а 20 A.  $\mathbf{E}_{\mathbf{f}}$  chage i e, he is  $\mathbf{e}_{\mathbf{f}}$  i ed  $\mathbf{E}_{\mathbf{f}}$ e b adeigofodei 6 - ee. 21 а 22 Ad he are i ed? Q. The aceri cofie c. 23 Α. Oa. Ne o o i i i e a 24 Q. àificato. Ca o è e ha o ea b 25 ha ?

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1	A. $\delta$ , $\circ$ ce $\circ$ has a f c $\dot{\circ}$ $\dot{a}$ $a_1$ $a_1$
2	$\bullet$ igo for he afer fab, af er hio ha eo
3	1 a o of diffe pe ad à ifica io
4	$\mathbf{e}_{\mathbf{f}}$ ced $\mathbf{e}_{\mathbf{f}}$ is $\mathbf{e}_{\mathbf{f}}$ or $\mathbf{e}_{\mathbf{f}}$ or here $\mathbf{e}_{\mathbf{f}}$ has $\mathbf{e}_{\mathbf{f}}$
5	chage e ha e ade i $\mathbf{e}_{\mathbf{f}}$ ig $\mathbf{e}_{\mathbf{f}}$ $\mathbf{e}_{\mathbf{f}}$ . $\mathbf{\delta}$ , i
6	pa a be chofe ado eed ie a
7	be $f$ f de ice i $f$ de $f$ $f$ hi $\hat{a}$ if ica $\hat{b}$ .
8	We have ite at one of e , de $e_{\hat{I}}$ he at , ee
9	he ii he e he a i beaig, ad a a
10	haeo her ar hich aro de rcie.
11	Q. Adie ea oo abo <sub>1</sub> o beitea <sub>1</sub>
12	o hio, abo he <u>papio o ge</u> adodo
13	ha i $e_1$ à à ifica $b$ . Ba edo $e_1$ e $e_1$ e ce
14	a Ifice, i papi ac à gee à piped
15	before cage ahead a doe hat $e_{\hat{t}}$ a
16	à ifica i ?
17	A. S. e, e ed ie a e fi e ja
18	papio 1. Khaeo e à of he
19	$\hat{a}$ if icate e i $\hat{c}$ de $\hat{c}$ de $\hat{a}$ he e.
20	Ve have on define he be of priped e . Ve
21	haeoda heogi ic o <sub>1</sub> . Ade, o
22	haeo ae pe hao hae hear hich ape
23	ece a <sub>1</sub> o be e ed.
24	Q. Adi hepaiehaiodică
25	aeo da ha papi brieta
	E The Dec d I c

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àifica b b a h i? 1 2 The ie e ied of pape of oiga Α. 3 h i i i he ageofhee oh. 4 Q. Adaoerpiedo de ha para to? 8, papi o, hepifie o e. 5 Α. 6 Q. Adi eaigo -- 6, hei ea 7 a ifica is fade i chage, boog od ha ica a e? 8 9 A. S., paab or Srade i chage i 10 bei heaeba a<sub>1</sub>. I ao h<sub>f</sub>eo h papi fie e e. 11 Q. Ado di bea differe 6 ra e, a e 12 13 e? 14 Α. A ga o de eed e e e i е  $\mathfrak{h}$  hi, i  $\overline{\mathfrak{i}}$  be he acef  $\mathfrak{h}$  . I  $\overline{\mathfrak{i}}$  be here 15 h papi or infie o e. 16 0 17 Wha ha e if o ob eed e e i g Q. eie? 18 A. If o eed e e e i e , o ha e o b 19 20 hi, ad a o hae a certai ead ie io der 21 e ge hee ie. So, ad hi ca ar fer br ie, ie hee oh eadie, o--Ido 22 23 • eac, ie• h,• e ea, hich I 24 e e ie cedo ce. Q. Oa. Ado ce o eacă o eed o 🕤 25

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paabod hei era aificab, boog 1 de i, i fac, a e o de he i e 🚠 à ifica b 2 3 6 a h i ? A. S., for e e je ce, he à ifica b o r 4 5 i i he ageofhee o h o be de e he e. 6 Ad he be of egiee i o edi ha? Q. 7 be of e gi ee, hich a e ece a, he e, Α. Ν i fie e e. 8 9 **b** ab **b** a de i cha ge? Q. 10 8, 5 , a de i chage, de he a b Α. ode acage a dhe acage i 11 ha o à ead à ified, hi agai i be he a e i e 12 fae. I hee o hadfie o e. 13 Q. No dhe ie e pidbea diffe pe o do 14 i erà à ificato fra e -- fra e e? 15 16 A. S, if o a popig for a e ib chagig he acage, hi  $\overline{1}$  be he a e eff  $\gamma$ , 17 hich ea haee on had fie of e, b 18 addibà e ad eie ab a e e i i è if 19 a pogigo chage he eo f DRAM. 20 0 21 Q. Ca o gie ea i eo pedeaio ha? • d ha be? 22 Wh 23 Α. I e e ie ce, he e e f  $e_r$  fa age odeo EDO deice, i oo a o g i e o ge hi 24 25 a, ad, ig, ad e hada o of o, o be

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peole dig hae ada od jag he 1 àificate i e a de à co fer e e je ce 2 3 o eara ea io dero ge hee e ad r ig, ad hi a  $\overline{a}$  id  $\mathbf{f}$  r EDO de ice, hi i 4 5 aid for choro de ice, ad for 6 de a digad o edge, a o b o he de ice. 7 epäigabo o earadeep Q. ð à igabo i erà à ificato. No aidi 8 ae e ea j e de hei e a à ifica ie ? 9 A. No, o hei e 🚡 à ifica to, he ho e 10 11 orce or ge he are a drig. Q.  $\overline{A}$  \_ igh . 12 MR. PERRY: K , K o , if I o d -- I o d 13  $\mathbf{a}$  hiice, b he  $\mathbf{b}$  e  $\mathbf{e}_{\mathbf{f}}$  ce, e  $\mathbf{e}_{\mathbf{f}}$ , i 14 15 ha hefi, 11 e 6, ha? I ca ae ha 6, ce<sub>r</sub> , b --16 JUDGE MCGUIRE: Ca o caif ha, M, Ca ? 17 18 BY MR. CATT: Q. Whe e e a igabe e og her gh he 19 20 be of ce, ca o e e, oo iga o f chaf hee, ha e o eeic digi ha? Weeo 21 àigabo ogig for e là hea horgho 22 23 e 11? 24 had  $\mathbf{o}$   $\mathbf{a}$   $\mathbf{o}$   $\mathbf{e}$   $\mathbf{o}$   $\mathbf{f}$  and  $\mathbf{f}$   $\mathbf{f}$  25

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• he e e, ad hich ea • ha e •  $\mathfrak{G}$  for 1 2 e 1 e 12, a d e ha e e d e e e i be ee. 3 K haeo \_edo e e i be ee. Thi ae erghera 24 e h. 4 5 Q. To de each e --6 Which ea -- hich ea  $\bullet$  have  $\bullet$ ,  $\bullet$ ,  $\bullet$ Α. ea e, o e e o o e o f e iceo, h pe 7 8 ie. Q. Oa. Fia -- • fia , b 12 --9 10 JUDGE McGUIRE: À jeh, e e i e jec heej by cajficato o. De haa en 11 • r e b, Mr Perr, beca e I a i e cear 12 ēf. 13 14 MR. PERRY: I did , b I a ogigo 🔒 15 • --16 JUDGE McGUIRE: I o ha I j \_\_\_i g 17 eroreb. I rigoa eribr • a ēf. I 18 he e io he e ha i a e a a e age 19 e eare of horgh he efire, er-Ia a i e , beca e e aid e ha e e pea 20 21 cerai e, ad de edigo --22 THE WITNESS: Yeah. JUDGE McGUIRE: Mabeif o o dcaif ha 23 āo, i, i o d cerai he he 6 r. 24 25 MR. CATT: I hi , to the o bet the de

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ha, I kan da han e higea-engigendi 1 a hi e ac a g-- o 10 aje hef 2 3 ie e 👍 d, ad hei opigo op --JUDGE McGUIRE: O a , e , if o a o d 4 5 i he, ha fie ih e. Ij a o add e 6 ha oi ba edifica ba è o ha I de a d hi e a e ie . &, I g ahead 7 adhae  $\bullet$   $\bullet$  ceed, ad he if I i hae 8 e i , I i e jec a ha i e. 9 10 MR. CATT: Ye, I de ad, ad he e o of diffe pe i e e po de e bee à i gabo, a d 11 a heed I on igo be ef ge hio cajf 12 13 ha . JUDGE McGUIRE: O a , a \_ igh . 14 15 • ai f ha, M Perr? Ca MR. PERRY: Ye, Yo 1 to 1 ha o. 16 17 BY MR. CATT: The e e e e a rigo a ab 18 Q. c o e, à ifica b. Ca o de c\_ibe o e 19 а 20 ha e ea b c e e a ifica b? 21 8, oceo haedea o ji eja Α. àifica à ado haeo e aer hereo ca 22 23 😋 e ha he chage i 👩 🕌 ig, he o cagie a e o hec o e, he phei o a e hi 24 àifica à i hi aìica à . 25

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1	Q. Oa. Adbe e i ica aeb <sub>í</sub>
2	ac e e e d ha à ifica à fe a h i?
3	A. $\delta$ , for $e e i e ce$ , hiae hee h
4	$\bullet$ $\bullet$ hec $\bullet$ $e_1$ à ifica $\bullet$ .
5	Q. Word ha be a diffe pe i e e pi d for a
6	de i , a e de i ?
7	A. $\delta$ , $\delta_1$ de i icpeae, for e ejece,
8	i heen h n ib.
9	Q. A d <b>b</b> <u>f</u> a cha ge i he e?
10	A. &, if o chage he e, he ie e ied
11	f <sub>1</sub> coe <sub>1</sub> à ification, agai, heeo h
12	5.8, hee ohodea a ii ie
13	$\underline{e}$ i $\underline{e}d \circ d$ heco $\underline{e}_{\underline{f}}$ à ification.
14	Q. Oa. Ad he fiā, o haeo he i
15	be <sub>1</sub> 13, <sub>1</sub> a o o <sub>1</sub> d coi. I hi o ha e à ed
16	abo je bebe, b ca o je e ha o
17	eabhaaoidhe pio Èi?
18	A. $\delta$ , $\circ$ ce $\circ$ hae a $\hat{a}$ if ied $a_1$ hich i
19	acceabe oc o e phe o ha e o a e pe ha
20	o ca a hi a ao i o fordcio
21	facii, $\mathbf{o}$ o halo $\mathbf{o}$ $\mathbf{e}_{1}$ a heorigad
22	ão o ibo e idofe i e hao ca 👔
23	ada o 100 e pe o fo jojd c b õ e.

• hae f • eredã • red c • faci i ie 1 2 e a. 0 î he e -he 3 Q. Ado d ha be he ae to rahi, a 4 a d a e cha ge? de i i o por he a e for he h pe 5 Α. Thi 6 diffe e, e. Oa. À jgh, o, h de e, he o 7 Q. 8 e ca a je ha e e bee her ghad ee if ac ā 9 ge ie e jed ha ae e e. We hae a 10 badher, Wordi ac cotro o draio he **b**  $a_{d}$ ,  $o^{-}$  d ha be  $h\bar{e}$   $f^{-}$ ? 11 12 Α. Thi, I ca de i, e. MR. CATT: Word ha be a jgh, Yo jb o ? 13 14 JUDGE McGUIRE: Tha fie. MR. CATT: He ef e ha e a e . 15 MR. PERRY: The e he e. 16 17 BY MR. CATT: If eod a, he ih a hi, ad if 18 Q.  $\bullet$   $\bullet$  d  $\phi$  h  $\bullet_{f}$  gh he  $\bullet_{f}$  ce baica aig 19 20  $h_{e_{f}}$  gh -- 1  $h_{e_{f}}$  gh --  $e_{f}$  ,  $e_{f}$  1  $h_{e_{f}}$  gh he 21 edof 13, o fgie heiee ad. Wē, e fi, à abo obiga h, e 22 Α. I i 23 a je heo à ie e i edo ob hi i hae and boc. So, eboc i dig hede ig 24 25 0 -1.

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1	Q. Adifo odo <sub>f</sub> he o appijig
2	ha d, if o o d efe e ce he be to he
3	i heg, I hi ha o d be he f.
4	A. S., hi i e 1 e 4. The he e e i
5	de ighe iice, $_{1}$ ighe iice, a eb,
6	hee, heolig he àifica is . A da
7	bea, deig he <u>p</u> a
8	Q. Adoca o je he e de de jeah
9	eachof be ha
10	A. &, for de ig i i i ià de ig
11	Q. Kaj jekalo 4.
12	A. Ye, hi i 1 o 4.
13	Q. Ad he for the e o e, o o d the he
14	e ha iice ada eb ic de.
15	A. Se 1 o 4, o he e e ha e i io
16	aebade, ohii e be <sub>1</sub> 5, aeb
17	ade od e, 5 o 10, ad $6_{1}$ he à ificato,
18	ha he eofi e <sub>l</sub> à àifica <b>bo</b> f 11, ad
19	e be $12$ , hich i hec $e_1$ à ifica $b$ .
20	The $a$ - i e be 13.
21	So, he e a e a $e_1$ gh cà cì a is o o f
22	hi $\mathfrak{s}_{\mathfrak{f}}\mathfrak{o}$ ig he de ig $\mathfrak{o}_{\mathfrak{f}}\mathfrak{o}_{\mathfrak{f}}$ i i iā de ig ,
23	i ab ad ao, i c dige įficab, o hi
24	iq ghi ich to fah i.
25	$\mathbf{F}_{1}$ he $\tilde{\mathbf{i}}$ is a dae $\tilde{\mathbf{b}}$ ad hee,

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i agai i he ageofioh. 8, 6, he 1 àificato, e ha e a i e e i edofio h. 2 Ad  $b_1$  he  $a_2$  -  $c_1$   $f_2$   $c_2$   $c_3$   $c_4$   $c_5$   $c_6$  100 e  $c_2$   $c_2$ 3 4 ordco, o hi i to ro i arer. 5 8, if eo ide, he i e for e 1 i 6 e 12, o hi i 18 o h, for he po he p. 8, 7 if ea\_eodig--8 JUDGE McGUIRE: O a , o i 18 o h o 9 ae age for Ige e 10 e 12. I ha 10 o rec ? 11 THE WITNESS: Righ . 12 JUDGE McGUIRE: O a . 13 THE WITNESS:  $\delta$ , if ease d i g a de i ic pae, e ca hae he ae a ica ica i of he 14 differe e.  $\delta$ , de ig  $\circ_{1}$  i i here.  $\overline{b}_{1}$ 15 de ighe iice - ada hea eb adhe 16 e, i a i ebi o ge, ha o a ed o he 17 h<sub>i</sub>. &, f<sub>1</sub>dig he àificat -- o, I 18 19 ied he fige. 20 8, deig o, i hi caeii he ageof 21 h 6 , e 1 o 4. 6 , i i o ad e , i 12 0 agai i he a e age, i o h 🐂 . A d for he 22 āifica b, i agai i o h . S, b ( 23 24 \_a - of he ordcob, i agai he a e ie, 25 6 roi arer 6 rolig hi. 8, hi i 50

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10, 11 o 12, he 13. 8, if e o hi for e 1 1 • e 12, • hi iei • 24 • h, 2 /i ā i e bi. 3 8, if ea\_eoligachagei e, he ie 4 5 e ied for dig he de ig i o e higi be ee, i ollo h, 6, 1 o 4. B, he iio , 6 ad he e, he  $\overline{a}$  if  $\overline{b}$ ,  $\overline{b}$  he  $\overline{a}$  - . 7 Thi i 5 o 10, 11 o 12, 13. Thi i i o h 8 🗂 , ad hi i e h. 9  $\delta$ , ehae  $e_1$  i  $\tilde{e}$   $\tilde{a}$  of  $e^{de}$  ig , e 10 hae o og ei her hor ghaddi i a de ig oo , 11 addi **b** a e i g oo , addi **b** a a ifica **b** 12 Too, o hi ie ha o 24 o h, i 13 14 e e je ce, he e  $\circ$  ed f $\circ$  fa age  $\circ$  de  $\circ$  EDO $\circ$  -115 for choro od bedaa aeo for EDO o  $che_{f}e$ , i a  $\bar{a}e$  e ha he 24 e h  $\bar{b}_{f}$ 16 16 3 ig hea ief 🗟 🧃

ih i a go-fifa-a pi hh a h a b ace i 24 ja TO EDO i

1	THE WITNESS: & , & cha gig he e, i
2	24 $\circ$ h $$ , ad abe $\circ$ a $\hat{i}$ adeig, hi
3	i opigā įgh, he o opo į ig he
4	īio, he o fig po
5	JUDGE McGUIRE: That he de ig , a jgh .
6	THE WITNESS: $oldsymbol{e}$ e higi $oldsymbol{e}_{\hat{\Gamma}}$ g, he $oldsymbol{e}$
7	$\mathfrak{g}$ bac $\mathfrak{o}$ he de ig , a $\mathfrak{f}$ $\mathfrak{a}$ $\mathfrak{o}$ e $\mathfrak{f}$ agai .
8	JUDGE McGUIRE: $\mathfrak{F}$ , he be the $\mathfrak{e}_{\mathfrak{l}}$ ce $\mathfrak{e}$
9	ae age hoid a e abo 24 o h, i ha o <sub>f</sub> ec,
10	hich ego bac o o he e io o fo o i g
11	$\bullet$ $\dot{\bar{e}}$ . He a $\dot{\bar{c}}$ eat ha he 24 $\bullet$ h ac $\dot{\bar{a}}$
12	i È ded.
13	So, ca o e i o hi , M <sub>e</sub> Ca ?
14	BY MR. CATT:
15	Q. $\mathbf{E}_{1}$ each of hee, he apply $\mathbf{E}_{1}$ a eappe
16	ecdc. I ha e rec?
17	A. Sea <u>a</u> e <b>e</b> dc.
18	Q. S., o a e o dig
19	JUDGE McGUIRE: Oh, o a .
20	BY MR. CATT:
21	Q a h_i ad he ade i o of ha?
22	JUDGE MCGUIRE: O a , I de $_{\hat{\mathbf{l}}}$ a d.
23	BY MR. CATT:
24	Q. Ad I bèie e l' o <sub>le</sub> c. Wido oda
25	h_i adade i o he ae chageo he ae

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1	€dc?
2	A. Mo, o o do hia heaeie.
3	JUDGE McGUIRE: I de $_{\hat{1}}$ a d, $\mathbf{e}$ a . Tha
4	ae <sub>i</sub> eb.
5	BY MR. CATT:
6	Q. Oa. No, hoefig <sub>e</sub> , e e à edaho a
7	To of oh before, ad o eof he oh e a ed
8	ab befig, ap he o he paping the f
9	i ace, af he ic ded i he be to e
10	gie he <u></u> ?
11	A. No, o ca a <sub>1</sub> o e higi a <sub>1</sub> ã è. B <sub>1</sub>
12	ea e, papio o for ighe fir iio
13	ca a o e he e i he e he o a e o ig he
14	de ig .
15	JUDGE McGUIRE: I de <u>r</u> a d.
16	THE WITNESS: Bigā he ai e a ce a d
17	hig ie ha. $\mathfrak{F}$ , hi ca $\mathfrak{a}_1$ i hep.
18	JUDGE McGUIRE: &, he e i e e e i a?
19	THE WITNESS: $\mathfrak{F}$ eo $\hat{\mathfrak{e}_1}$ a , e .
20	JUDGE McGUIRE: O a .
21	MR. CATT: I de hi I ha e a f the t
22	
23	JUDGE McGUIRE: The M $_{ m f}$ Pe $_{ m ff}$ , $ m o$ had ha
24	i i carie po a o j à o ha o
25	• 1 <sup></sup> i caeo po cea <sub>1</sub> o e ca fiã ge
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h \_ 1 The Reo \_ 1 . I c. Wa d \_ 1 , Ma \_ a d (301) 870-8025 1 hi po ed?

MR. PERRY: I o a ihi o , b , b o , 2 JUDGE MCGUIRE: O a , I fie, co . & , e 3 4 of ceed. 5 MR. CATT: Ca I of o e a b f b pa, b f 6  $b \circ - b \circ b \circ e \circ a \circ c \circ ?$ 7 JUDGE MCGUIRE: Le aeabea to re 8 i е. 9 (A b ief ece a a e .) 10 JUDGE McGUIRE: M, Ca, I de, ad ha o hae o c ded o reaiab of he i e ? 11 MR. CATT: Ye, I ha e o c ded 12 eaiab. Io dj ieo a ha hechar 13 14 ha ha bee  $d_{a}$  be  $a_{1}$  ed a DX-45. 15 JUDGE McGUIRE: & ed. (DX E hibi N be 45 a a ed 6 16 17 ide ifica **b** .) JUDGE McGUIRE: A hi ie, he, e i 18 e erai he cor e a i a b . Mr Perr? 19 20 MR. PERRY: Tha o, b , b or 21 CROSS EXAMINATION BY MR. PERRY: 22 Q. I bebjef, j a fe e b, Dr 23 24 Rec e . Y à edalo haigo e à e o ibi i 25 F \_ The Rec \_d, I c.

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a Sie e for heo e- egabi a d he for egabi 1 2 DRAM. De e ber ha? 3 Α. Ye, ha jgh, i 4 Ad e e b e chero de ice ?Q. 5 No, be espected to the cherce of the cherce Α. 6 de ice . 7 Q. Ado e e e fbee i o ed i de ig i g a 8 chero DRAM, o pec ? A. No, I ha e e e f bee i 👩 ed di ec i 9 10 de ig i g cher o de ice. Q. Ado hado 🙀 ei deigig I fico DDR 11 12 SDRAM de ice, © pec ? A. I had  $\bullet$   $\hat{\bullet}_{f}$  e a a de ig e  $_{f}$  i de ig i g ch 13 deice, b I a i o ed i h he a i g. 14 15 Q. Ado rere o ib i A ja, o e hed ha ice Se e be 2001. I ha e rec? 16 17 Α. Thi i 🗙 rec, e. Q. A d ha face r or d ce or d c b r he 18 a o o i e i d \_ 1, O \_ rec ? 19 20 A. Mai  $\mathbf{b}_{\mathbf{f}}$  heacoieid  $\mathbf{f}_{\mathbf{f}}$  ha 21 ● rec, e. 22 Q. A pa DRAM  $rac{1}{r}$  d ced i ha face  $rac{1}{r}$ ? 23 The pape o DRAM ord ced he p. Α. Q. No, if e o db i g he DX-45, I ge i 24 i, ea e. 25

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1 JUDGE MCGUIRE: B - - 5 -? 2 MR. PERRY: Oh, I he gh i a j de c\_ibed 3 a 45. 4 JUDGE McGUIRE: No, hi i 45, he cha. MR. PERRY: Oh, & the he iece f a e 5 a 6 \_igh . 7 JUDGE McGUIRE: The hee ha hed e. 8 MR. PERRY: Tha ••• 9 BY MR. PERRY: Q. Referigo o DX-44, hi i e i ed Se 10 • I ee a Deig Chage. 🎖 hae ha i fe 11 12 ofo? 13 A. No --oh, hi o e? 14 Q. Righ . 15 Yeah. Α. 16 Q. I i o rec ha I fio ha o o hor gh 17 eacho eo f he e e he e fi a e a chageo a DRAM? 6 pec ? 18 A. Wheee f i are a deig chage, e. 19 Q. Ad ha or ce ca be i eo ri ca be 20 o ica ed de e di g o a o of differe facor, 21 22 \_igh ? 23 Thi i 👁 👝 e. Α. Q. Brea e, he Ifie adea a ib 24 25 for a 128- eq SDRAM de ice o a 256- eq SDRAM de ice,

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1 ha a a a tracha ge, o rec? 2 A. A fara I peberia hee hera 3 ae<sub>r</sub> d. We fig did he 256-eq, a d af eg hi e 4 he 128- eg. е 0 5 Ad ha a a an than the set of the character ? Q. 6 To ic page he de i i a an francha ge, e. Α. 7 Adcerai he Ifie a ib edfer Q. 8 SDRAM o DDR SDRAM, ha a a ago cha ge, igh ? a ā e aģ - cha ge, e. 9 Α. Thi 10 Q. Ad ha \_a ib b \_f I fie for SDRAM o DDR SDRAMo cc red i he ear 2000, o rec? 11 A. I de e bereach he da eo f 12 aib. 13 14 Q. We, o de e be ha a abo he i e 15 edee rețeli A ja, Ifie a 0 16 end che o DDR SDRAM. I ha jeh? i g a 17 Thi i jgh. I do -- Ij do Α. 18 eeberheeacearofhi a ib. Q. Ad I fie had e og her gh hæe ang r 19 20 .,ede ig for ₁i DDR SDRAM de ice befor µe i a ab e 21 🛛 🔥 d ce a de ice ha 🔥 ed acce abec o e 🚽 0 22 e to ra ce, o rec? 23 Thi i 👁 👝 e. Α. 24 ha ea ha for acho for a e DDR Q. A d ede ig , I fi e had e a a a e agai a he 25

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1 arof hi char, DX-44, a do ereach e, jgh? 2 Α. Thi i 👁 🖡 ec, e. 3 Q. No, I e head he hae "aoo." I hee e acee hi cha, DX-44, ha e reede he 4 5 a • • f a de ice? 6 A. S, hi e, a gee, a ed i S, e, da beca e he ae o e ha ded he a e o 7 he а **b**, ad hi ac ā a cā ed o be a a o . 8 9 🗞, hi i i be ee e 4 a d 5 a a deadie, f 🔒 ea e, i he ched e. 10 Q. Tha 11 ο. 12 🕷 , o 👘 e e 💩 ed SDRAM a d DDR SDRAM. Did Ifie a deiga e e i i iea RDRAM, a 13 14 Ra b DRAM de ice? A. Ye, I fi e ā e de ig ed a Rab de ice. 15 Q. Addid I fi e cce f ace i h he 16 fi 12 e i h e ec o he RDRAM de ice? 17 8,0<sup>°</sup>d0<sup>°</sup>eae ecif hao ea ih 18 Α. " cce f "? 19 Did I fi 🛛 🔿 🗋 e e he fi 🔒 12 20 Q. е ha a\_e i edo DX-44 i h e ec o he RDRAM? 21 22 A fara I peber e. Α. 23 Q. A d --24 Α. 25 Addid I fi o cho e o a he RDRAM Q.

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1 o ordco? A. 6<sup>-</sup> d • <sup>-</sup> ea e ecif hi e **b** a<sup>-</sup> i<sup>-</sup> e 2 3 bi • e? 4 Q. Wa heze a deci 🝺 ade b I fi 💩 a 👩 e oi -- o o repoir o edge, a herea 5 6 decibiade b I filo a o e o i o o a he 7 RDRAM o ordco? A. A fara I peberio fie-eara, e 8 hado e o e a o ca edo he Raba. I do 9 • eac b ch hi i -- hi 10 a. Did I fi e a he RDRAM e e d c i ? 11 Q. Ifie had e erdch e fhe 12 Α. 13 Ra b a, e. 14 🕷 , o becaeaa-paoeoi ha Rab Q. 15 had a e ed ha I fi e SDRAM a d DDR SDRAM de ice i figed Rab ae , o rec? 16 I om, odo pea 17 he e b? Α. Did o a o e o i ea ha Rab had 18 Q. 🚡 ai ed ha I fi 🐟 👘 SDRAM a d DDR SDRAM de ice 19 if jed Rab ae ? 20 21 A. We, I o a a e f hi, beca e I did 22  $\bullet$  he cai  $\bullet_{\uparrow}$  he as  $\bullet$  f Rab. Q. We, e e a . We e o i o ed i he 23 decià b I fie e e a e a ice e fer Rab 24 25 the Rab ae ?

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I a o i hi decipio . 1 Α. hae e 👝 à o edgeo f 2 &, & o h Ο. 3 • a e he ice e? I fi 👁 che e e Ihae e e a a e edge ab h I fie 4 Α. -- ade a decibo a iga ice eo 🔒 5 did o 6 **•** • 7 We e o i o ed i I fi o deci o ha Q. i o do pedeigi eo deice o do 8 9 ao id he Rab ae ? 10 A. Mo, I a o i o ed. Q. &, & o hae e o à o edgeof ha he 11 12 face, ee ha ee e ideed b I fie he i 13 ade a deci b o o o ede ig o ao id he 14 Rabae? 15 Α. No, I do ο. 16 MR. PERRY: I hae o higf the bor JUDGE McGUIRE: Tha o, M p Pe r. 17 18 M Ca , ediec ? 19 MR. CATT: Mo f here b, b rbor 20 JUDGE MCGUIRE: O a, i, ha e, ch 21 5 ro re io heeoda. Yo eeced for 22 hi erceedig. k de o ai o è i e d o or ceed 23 24 her ghe e da? Did e --25 MR. ROYALL: 🕉 🕌 🗛 I -- e did 🔹 o

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\_ega\_dhaoiedo o,oIodeec 1 o ai o è i hef po be paped o offet 2 eofeio i beb <sub>1</sub> haap 3 ha 4 o herieo e o e ca e edie hi orceedig. 5 MR. ROYALL: We de a d ha, b ab o 6 adea eciae ha, ad I ca a e -- I o e a ā i ā ed, I a o if a o ei he 7 • rep i i è ed i he • r ha gige ih 8 9 hedeoito, b Ica a po ha eap 10 origo rhade o ro pap be, o deà 11 ihobjecto ado dea iho heri e ha hae bee paied e ca fi a fpe ie ih he 12 13 deo i b . JUDGE McGUIRE: We , I hi he & , ha 14 15 • , • I de a ici a e adei i 👍 🐌 16 haigeee hiagaii hef ei hi 17 😋 ceedi g. Haigaidha, ca e e ha e a 18 19 he **f** Fida ? MR. ROYALL: I be ie e ha M Pei o p 20 21 Pei, I o \_e hich, i e if igoo \_or • fig. 22 23 JUDGE McGUIRE: A d ha ch i e da o 24 a iciae hi beigo he ad? 25 MR. ROYALL: Do o hea e-o ha?

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\_eā --1 JUDGE McGUIRE: O a , e , I g ad o hea , 2 ha. I hi i bo dbe a di, o d. S, o 3 o, Ibeee, oei cea, o. Ad ha gig 4 • a • he• he\_ide a e he i • e i e, 5 • • , • , • , ca e i chief. 6  $\boldsymbol{\delta}$ , haig ca  $\dot{\boldsymbol{b}}$  ed he a<sub>1</sub> ie  $\boldsymbol{\bullet}$  ha, hi 7 heajgiado, ad e o eei heojig 8 a 9:30 a. . 9 MR. ROYALL: Tha o, b 1 b o 1 10 MR. CATT: Tha o, b 1 b o 1 11 12 MR. P4 👝 RY Tha 🛛 👩 🖊

CERTIFICATION OF REPORTER DOCKET NUMBER: 9302 CASE TITLE: RAMBUS, INC. DATE: JUNE 5, 2003 I HEREBY CERTIFY ha he 🚑 c 🛓 👁 ai ed he ei i af adaccae a ci of he o e ae bea he heajigo he aboeca e bebje he FEDERAL TRADE COMMISSION • he be • f • edge a d be ief. DATED: 6/5/03 SUSANNE BERGLING, RMR CERTIFICATION OF PROOFREADER I HEREBY CERTIFY ha I on f pad he a ci fraccaci èig, hheat, cab adbaa. DIANE QUADE E \_\_\_\_The Rec \_\_\_\_\_\_I c. Wac \_\_\_\_f, Ma \_\_\_ a d (301) 870-8025