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Kristen K. Greene
Melissa A. Gallagher
Franklin P. Tamborello, II

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Kristen K. Greene
Information Access Division
Information Technology Laboratory

Melissa A. Gallagher
Rice University
Houston, TX

Franklin P. Tamborello, II
Cogscent, LLC
Washington, DC

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Abstract

Given the high propensity of users' motoric errors with smaller touchscreen buttons, knowing the endpoint distributions for finger-based pointing and tapping is especially important for higher-fidelity predictive modeling of tasks on such devices. One of the most studied models of aimed human motor movement in HCI is Fitts' Law. While Fitts' Law has a long and successful history of application in predicting mouse-pointing or stylus-tapping times, its traditionally high predictive ability declines when it is applied to finger-pointing tasks involving small touchscreen targets, especially when the finger (input device) is larger than the target itself (commonly known as the "fat finger" problem). There is still some uncertainty regarding the systematic prediction of endpoint distributions for two-dimensional finger-pointing tasks. Recent work (May, 2012) found endpoint error distributions larger for on-axis than off-axis movement in a mouse-pointing task, with the shape of the error distribution along the movement axis more ovoid than circular around the target center. Since the implementation of endpoint error in ACT-R did not previously distinguish between on-axis and off-axis error, Gallagher and Byrne (2013) implemented May's 2012 work in an ACT-R model by modifying the method by which noise is added to the ending position of mouse movements. Here, we build upon such modifications by implementing them in an ACT-Touch model; ACT-Touch is an extension to the ACT-R cognitive modeling framework, useful for modeling and simulation of human interactions with mobile touchscreen devices.

1. Introduction

As the number and variety of tasks performed on mobile touchscreens continues to increase, it is critical that our modeling and simulation methods evolve to keep pace with the ever-changing technology environment. Given the high propensity of users' motoric errors with smaller touchscreen buttons, knowing the endpoint distributions for finger-based pointing and tapping is especially important for higher-fidelity predictive modeling of tasks on such devices.

One of the most studied models of aimed human motor movement in Human-Computer Interaction (HCI) is Fitts' Law (original formula, Fitts, 1954; modified formulas by MacKenzie, 1992, and Accot and Zhai, 2003, among others), commonly interpreted as a speed-accuracy tradeoff, with numerous experiments and refinements over the years (e.g., Guiard, Olafsdottir, and Perrault, 2011). While Fitts' Law has a long and successful history of application in predicting mouse-pointing or stylus-tapping times, its traditionally high predictive ability declines when it is applied to finger-pointing tasks involving small touchscreen targets, especially when the finger (input device) is larger than the target itself (commonly known as the "fat finger" problem). This issue has generated a number of recent studies (e.g., Parhi, Karlson, & Bederson, 2006; Perry & Hourcade, 2008; Henze, Rukziok, & Boll, 2011), and a proposed modification to Fitts' Law called FFitts Law (Bi, Li, & Zhai, 2013) to improve its predictive ability when using a finger as the input device.

However, there is still some uncertainty regarding the systematic prediction of endpoint distributions for two-dimensional finger-pointing tasks. While differences in endpoint errors in desktop pointing tasks have been found (e.g., Wobbrock, Shinohara, and Jensen, 2011; May, 2012; Grossman, Kong, and Balakrishnan, 2007), to our knowledge these studies still bear replicating in the mobile touchscreen environment using fingers rather than mice (or pucks, in the case of Grossman et al. 2007 study) as input devices. Most importantly for the modeling and simulation community, support for modeling the latest touchscreen Fitts' Law results should be implemented and tested in an established modeling framework. The current work is a first step in this direction.

2. Modeling Elliptical Error Distributions in a 2-D Pointing Task

Recent work (May, 2012) found endpoint error distributions larger for on-axis than off-axis movement in a mouse-pointing task, with the shape of the error distribution along the movement axis more ovoid than circular around the target center. Since the implementation of endpoint error in ACT-R did not previously distinguish between on-axis and off-axis error, Gallagher and Byrne (2013) implemented May's 2012 work in an ACT-R model by modifying the method by which noise is added to the ending position of mouse movements. Here, we build upon such modifications by implementing them in an ACT-Touch model; ACT-Touch is an extension to the ACT-R cognitive modeling framework, useful for modeling and simulation of human interactions with mobile touchscreen devices (Greene and Tamborello, 2013). Like ACT-R, the ACT-Touch code is freely available (http://www.cogscent.com). Appendix A contains an excerpt of the Lisp code which implements Gallagher and Byrne's pointing error method within ACT-Touch.

2.1 Task Environment

We use a two-dimensional version of the Fitts' pointing task (Fitts, 1954) on a touchscreen tablet computer measuring 768 pixels (px) wide by 1024 px high at a resolution of 72 pixels per inch. The model begins each trial by tapping a rectangular "next" button in the lower-right corner of the screen, positioned at 648, 944 (upper-left corner of button) and measuring 100 px wide by 60 px high. When the next button is tapped it disappears, the trial begins, and a single circular target (40 px diameter) appears in one of 12 possible locations. Targets appear centered inside one of twelve rectangular regions of the tablet screen; these regions correspond to a grid comprised of three vertical and four horizontal rows (grid lines are not visible to subjects). Each of the 12 possible locations receives an equal number of trials (100), with target location randomized to control for order effects. When the target is tapped or missed, it disappears, the trial ends, and the "next" button reappears in its location at the bottom right corner of the screen. The next button must be tapped to start each subsequent trial. Although most Fitts' Law tasks with desktop computers start each trial in the center of the screen, we chose to start ours in a location more representative of a user's dominant hand's "home row" position during tablet computing (bottom right for right-handed individuals).

2.2 Model Mechanics

May (2012) found elliptical pointing error distributions in a two-dimensional pointing task. Gallagher and Byrne (2013) implemented a revised mouse movement error calculation, below. Their error movement calculation yields σ, the standard deviation of the logistic noise function used by ACT-R to generate random numbers. The amount of error is scaled by the width of the target, *W*. The off-axis noise is scaled again by 75 %. The ACT-Touch model adapts ACT-R's (Anderson, 2007) mouse cursor movement mechanism to simulate moving a person's hand across the surface of a tablet computer and incorporates the May (2012) and Gallagher and Byrne (2013) refinements to movement error distribution in ACT-R.

$$\sigma = \frac{W}{4.133} * \frac{\sqrt{3}}{\pi} \quad (1)$$

Appendix B contains a sample of model activity trace as it performs the task. The first trial starts at 0.963 s into the task, immediately after the "start" button has been tapped. The model decides what to do next according to ACT-R's theory of conflict resolution (Anderson et al., 2004). Its visual system finds the location of the next target (time 1.063 s) and the model begins to move its hand to the found location when the procedural module sends a request to the motor module to perform a "move-hand-touch" type of movement (time 1.113 s). The motor module goes through its phases of movement, including preparation of the movement features (time 1.313 s), initiation (time 1.363 s), execution (time 1.750 s), and finishing (time 1.800 s). The motor module is pipelined so that while it is executing one movement it can prepare the next, e.g. time 1.363 s. when the motor module receives the request to perform a tap movement and time 1.513 s when it begins to prepare the tap movement, all while the move-hand-touch movement is executing. After the calculated movement latency, the motor module outputs the movement and that movements effects now manifest in the modeled environment (time 2.313 s).

3. Results

Appendix C lists the data output by the model with columns for trial number, response latency, target X- and Y-coordinates, whether the model hit or missed the target, and response X- and Y-coordinates. Figure 1 plots that data.

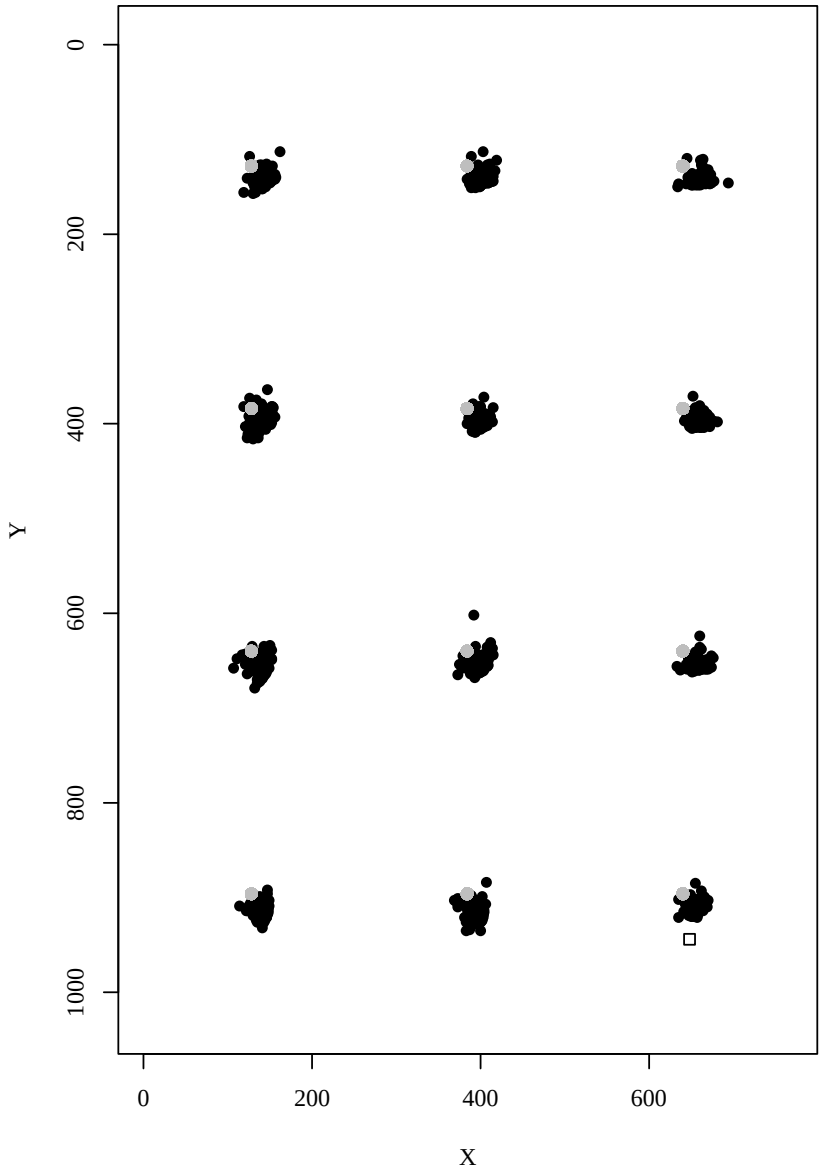

Figure 1. Plot of the two-dimensional Fitts' pointing task and model output. X and Y axes are drawn to scale for a touchscreen tablet sized 768 px wide by 1028 px high. The upper left and lower right corners of the display are represented by the (X, Y) coordinate pairs (0, 0) and (768, 1024), respectively. The open square in the lower right corner is the start position for all trials, the gray circles mark the twelve locations where the target may have appeared for any one trial, and the black circles represent tap locations for the model's responses.

4. Discussion

With a more realistic movement error mechanism in place, ACT-Touch can address user issues where physical aspects of interface design—such as button sizes—interact with cognitive aspects of human performance. For instance, if a touchscreen button is so small that it is difficult to reliably tap, and the surrounding area acts to cancel the current software-user dialog, then an accidental miss while attempting to tap such a button could undo a significant amount of work the user just performed. Such issues could be avoided by evaluating (and fixing) interface designs prior to deployment, using predictive models of human behavior that better account for motor movement error. In addition to validating the current model with human data, future work is also necessary to explore modeling of age-related differences in motor movement error.

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Appendix A: Model Code Excerpt

What follows is an excerpt from the ACT-Touch modeling and simulation suite of the piece of code implementing the two-dimensional pointing error. The full ACT-Touch codebase may be downloaded from http://cogscent.com/

```
;;;  -*- mode: LISP; Syntax: COMMON-LISP;  Base: 10 -*-
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
;;;
;;; Author      : Frank Tamborello
;;; Copyright   : (c) 2012-4 Cogscent, LLC
;;; Availability: GNU LGPL, see LGPL.txt
;;; Address     : Cogscent, LLC
;;;             : PMB 7431
;;;             : 2711 Centerville Rd, Ste 120
;;;             : Wilmington DE, USA 19808-1676
;;;             : frank.tamborello@cogscent.com
;;;
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;;;             : Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA  02111-1307  USA
;;;             :
;;;
;;; Acknowledgements
;;;             : This research is sponsored by Measurement Science and
;;;             Engineering grant 60NANB12D134 from the
;;;             National Institute of Standards and Technology (NIST).
;;;             Special acknowledgements are due to Dr. Ross Micheals and
;;;             Dr. Kristen K. Greene of NIST's Information Technology
;;;             Laboratory.
;;;             Thanks also to Dr. Michael D. Byrne, upon whose experiment
;;;             library code I based the device code.
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
;;;
;;; Filename    : act-touch.lisp
;;; Revision    : 12
;;;
;;; Description : This code extends the ACT-R 6 (r1227) motor module to implement
;;;             several movement styles commonly used with multi-touch handheld
;;;             computers as well as defines a device with which to perform those
;;;             movement styles.
;;;
;;; Usage  : Place in ACT-R folder "User Loads." This file will load
;;;             automatically after ACT-R loads.



(defgeneric noisy-loc-em? (mtr-mod xy-loc w theta)
  (:documentation "If the Motor Module is set up for it, make the output location noisy."))

;;; NOISY-LOC-em?      [Method]
;;; Description : Adds noise to the output location if noise is on.
;;;         : Rather than adding the same amount of error on both axis, more is on axis than
;;;         : off axis.  uses weighted-error to determine how much it is
;;;

(defmethod noisy-loc-em? ((mm motor-module) (xy-loc vector) (w number) (theta number))
  (if (not (cursor-noise mm))
    xy-loc
```

```
    (if (zerop w)
        xy-loc
      (weighted-error xy-loc w theta))))

;;; WEIGHTED-ERROR      [Method]
;;; Description : samples from the normal distribution with different error on axis and off axis
;;;             : based on work by may and byrne (see eq 6)
;;;             : Treats the error area as a circle with a diameter of pixw
(defmethod weighted-error ((xy-loc vector) (pixw number) (theta number))
  (model-output "pixw: ~a        theta: ~a~%" pixw theta)
  (let ((on-noise (act-r-noise (*  (/ pixw 4.133) (/ (sqrt 3) pi))))
        (off-noise (act-r-noise (* 0.75 (/ pixw 4.133) (/ (sqrt 3) pi)))))
    (polar-move-xy
     xy-loc
     (vector
      (sqrt
       (+ (* on-noise on-noise) (* off-noise off-noise)))
      (+ theta (atan (/ off-noise on-noise)))))))

;;; move-hand-touch
;;; Allows the model to move its hand to what it sees.
;;; Adapted from motor.lisp's move-cursor.

(defmethod move-hand-touch ((mtr-mod motor-module) &key loc object)
  (unless (or
           (check-jam mtr-mod)
           (check-specs (or loc object)))
    (let ((r-theta nil)
          (feat nil)
          (w nil)
          (vision (get-module :vision)))

;; always refer back to the visicon chunks if possible
      (setf feat
        (cond ((and object (chunk-visicon-entry object)
                    (chunk-p-fct (gethash (chunk-visicon-entry object)
                                          (visicon vision))))
               (gethash (chunk-visicon-entry object) (visicon vision)))
              ((and object (chunk-slot-value-fct object 'screen-pos)
                    (chunk-type-subtype-p-fct
                     (chunk-chunk-type-fct
                      (chunk-slot-value-fct object 'screen-pos)) 'visual-location))
               (if (chunk-p-fct
                    (gethash
                     (chunk-visicon-entry
                      (chunk-slot-value-fct object 'screen-pos)) (visicon vision)))
                   (gethash
                    (chunk-visicon-entry
                     (chunk-slot-value-fct object 'screen-pos)) (visicon vision))
                 (chunk-slot-value-fct object 'screen-pos)))
              ((and
                loc
                (chunk-visicon-entry loc)
                (chunk-p-fct
                 (gethash (chunk-visicon-entry loc) (visicon vision))))
               (gethash (chunk-visicon-entry loc) (visicon vision)))
              ((and
                loc
                (chunk-type-subtype-p-fct
                 (chunk-chunk-type-fct loc) 'visual-location))
               loc)
              (t
               (print-warning "No valid location could be generated
                     from ~s or ~s when trying to move the mouse." object loc)
               (return-from move-hand-touch nil))))

      (setf r-theta (xy-to-polar (loc (right-hand mtr-mod)) (xy-loc feat)))
      (if (= 0 (vr r-theta))        ; r=0 is a no-op
          (model-warning "Move-hand-touch action aborted because hand is at
                    requested target ~S" (if object object loc))
```

```
      (progn
        (setf w (pm-angle-to-pixels (approach-width feat (vtheta r-theta))))
        (let ((r-theta-new (xy-to-polar
                            (loc (right-hand mtr-mod))
                            (noisy-loc-em? mtr-mod (xy-loc feat) w (vtheta r-theta)))))

          (prepare-movement
           mtr-mod
           (make-instance
             'hand-ply
             :hand 'right
             :r (vr r-theta-new)
             :theta (vtheta r-theta-new)
             :target-width w))))))

(defmethod move-hand-touch-request ((mtr-mod motor-module) chunk-spec)
  (let ((object (if (slot-in-chunk-spec-p chunk-spec 'object)
                    (verify-single-explicit-value
                     (chunk-spec-slot-spec chunk-spec 'object)
                     :motor 'move-hand-touch 'object)
                    nil))
        (location (if (slot-in-chunk-spec-p chunk-spec 'loc)
                      (verify-single-explicit-value
                       (chunk-spec-slot-spec chunk-spec 'loc)
                       :motor 'move-hand-touch 'loc)
                      nil)))
    (when (or object location)
      (schedule-event-relative
       0
       'move-hand-touch
       :destination :motor
       :params (list :object object
                     :loc location)
       :module :motor
       :output 'high))))

(extend-manual-requests-fct '((move-hand-touch) loc object) 'move-hand-touch-request)

; (remove-manual-request move-hand-touch)
```

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Appendix B: Example Model Activity Trace

```
   0.963  VISION          SET-BUFFER-CHUNK VISUAL-LOCATION VISUAL-LOCATION1-0-0 REQUESTED NIL
   0.963  PROCEDURAL          CONFLICT-RESOLUTION
   1.013  MOTOR           FINISH-MOVEMENT
   1.013  PROCEDURAL          CONFLICT-RESOLUTION
   1.013  PROCEDURAL          PRODUCTION-SELECTED TAPPED-NOW-FIND
   1.013  PROCEDURAL          BUFFER-SEARCH GOAL
   1.013  PROCEDURAL          QUERY-BUFFER-ACTION MANUAL
   1.063  PROCEDURAL          PRODUCTION-FIRED TAPPED-NOW-FIND
   1.063  PROCEDURAL          MOD-BUFFER-CHUNK GOAL
   1.063  PROCEDURAL          MODULE-REQUEST VISUAL-LOCATION
   1.063  PROCEDURAL          CLEAR-BUFFER VISUAL-LOCATION
   1.063  VISION          Find-location
   1.063  VISION          SET-BUFFER-CHUNK VISUAL-LOCATION VISUAL-LOCATION1-0-0
   1.063  PROCEDURAL          CONFLICT-RESOLUTION
   1.063  PROCEDURAL          PRODUCTION-SELECTED MOVE-HAND
   1.063  PROCEDURAL          BUFFER-READ-ACTION VISUAL-LOCATION
   1.063  PROCEDURAL          QUERY-BUFFER-ACTION MANUAL
   1.063  PROCEDURAL          BUFFER-SEARCH GOAL
   1.113  PROCEDURAL          PRODUCTION-FIRED MOVE-HAND
   1.113  PROCEDURAL          MOD-BUFFER-CHUNK GOAL
   1.113  PROCEDURAL          MODULE-REQUEST MANUAL
   1.113  PROCEDURAL          CLEAR-BUFFER VISUAL-LOCATION
   1.113  PROCEDURAL          CLEAR-BUFFER MANUAL
   1.113  MOTOR           MOVE-HAND-TOUCH OBJECT NIL LOC VISUAL-LOCATION1-0-0-1
pixw: 44   theta: -2.0048923

   1.113  PROCEDURAL          CONFLICT-RESOLUTION
   1.313  MOTOR           PREPARATION-COMPLETE
   1.313  PROCEDURAL          CONFLICT-RESOLUTION
   1.313  PROCEDURAL          PRODUCTION-SELECTED DO-TAP
   1.313  PROCEDURAL          BUFFER-SEARCH GOAL
   1.313  PROCEDURAL          QUERY-BUFFER-ACTION VISUAL-LOCATION
   1.313  PROCEDURAL          QUERY-BUFFER-ACTION MANUAL
   1.363  MOTOR           INITIATION-COMPLETE
   1.363  PROCEDURAL          PRODUCTION-FIRED DO-TAP
   1.363  PROCEDURAL          MOD-BUFFER-CHUNK GOAL
   1.363  PROCEDURAL          MODULE-REQUEST MANUAL
   1.363  PROCEDURAL          CLEAR-BUFFER MANUAL
   1.363  MOTOR           TAP HAND RIGHT FINGER INDEX
   1.363  PROCEDURAL          CONFLICT-RESOLUTION
   1.513  MOTOR           PREPARATION-COMPLETE
   1.513  PROCEDURAL          CONFLICT-RESOLUTION
   1.750  MOTOR           MOVE-A-HAND RIGHT 623.061 -2.0172167
   1.750  PROCEDURAL          CONFLICT-RESOLUTION
   1.800  MOTOR           FINISH-MOVEMENT
   1.800  PROCEDURAL          CONFLICT-RESOLUTION
   1.850  MOTOR           INITIATION-COMPLETE
   1.850  PROCEDURAL          CONFLICT-RESOLUTION
   2.313  MOTOR           DEVICE-HANDLE-TAP #<MULTITOUCH-DISPLAY #x3020046C722D> #(396 405) RIGHT INDEX
TARGET, a BLACK CIRCLE located at 384 384, tap loc: #(396 405)
```

Appendix C: Model-Generated Data

trial	latency	targ-x	targ-y	t-diam	hit-p	resp-x	resp-y
0	1402	384	128	40	HIT	395	141
1	1347	128	640	40	HIT	134	657
2	1354	128	896	40	MISS	125	911
3	1348	128	896	40	HIT	146	920
4	1354	128	640	40	HIT	144	650
5	1088	640	896	40	HIT	652	911
6	1090	640	896	40	HIT	666	906
7	1274	640	640	40	HIT	666	658
8	1274	384	640	40	HIT	394	666
9	1406	640	128	40	HIT	663	132
10	1264	384	896	40	HIT	398	919
11	1267	384	896	40	HIT	400	935
12	1350	128	896	40	HIT	143	914
13	1278	640	640	40	HIT	663	654
14	1275	640	640	40	HIT	655	652
15	1408	384	128	40	HIT	403	136
16	1349	128	640	40	MISS	152	639
17	1405	128	128	40	HIT	146	145
18	1276	384	640	40	HIT	407	646
19	1354	384	384	40	HIT	398	390
20	1105	640	896	40	HIT	659	913
21	1355	640	384	40	HIT	650	393
22	1354	384	384	40	HIT	408	397
23	1271	384	896	40	HIT	390	914
24	1275	640	640	40	HIT	671	657
25	1091	640	896	40	HIT	663	911
26	1281	640	640	40	HIT	656	655
27	1280	640	640	40	HIT	657	649
28	1404	640	128	40	HIT	660	144
29	1358	128	384	40	MISS	140	379
30	1354	128	896	40	HIT	140	914
31	1274	640	640	40	HIT	659	655
32	1353	640	384	40	HIT	660	400
33	1352	128	896	40	MISS	127	906
34	1358	128	896	40	MISS	123	914
35	1354	128	640	40	HIT	137	654
36	1352	128	896	40	HIT	145	911
37	1408	384	128	40	MISS	403	113
38	1351	384	384	40	HIT	403	398
39	1355	128	640	40	HIT	145	659
40	1305	384	896	40	HIT	393	924
41	1280	384	640	40	HIT	393	668
42	1349	128	896	40	HIT	139	926

43	1354	128	640	40	HIT	136	658
44	1275	384	640	40	HIT	392	650
45	1349	128	640	40	HIT	138	671
46	1359	128	896	40	HIT	144	912
47	1356	128	640	40	HIT	132	679
48	1275	640	640	40	HIT	651	661
49	1274	384	640	40	HIT	408	654
50	1354	384	384	40	HIT	405	394
51	1274	640	640	40	HIT	660	658
52	1353	128	384	40	HIT	147	402
53	1351	128	896	40	HIT	146	920
54	1280	640	640	40	HIT	662	650
55	1362	384	384	40	MISS	398	382
56	1404	128	128	40	HIT	139	140
57	1350	128	640	40	HIT	142	655
58	1362	640	384	40	HIT	659	394
59	1272	640	640	40	HIT	659	660
60	1272	384	640	40	HIT	388	664
61	1365	640	384	40	HIT	652	386
62	1407	640	128	40	HIT	668	143
63	1354	384	384	40	HIT	397	402
64	1283	384	640	40	HIT	393	659
65	1410	384	128	40	HIT	410	143
66	1091	640	896	40	HIT	655	908
67	1351	128	640	40	HIT	136	654
68	1356	640	384	40	HIT	651	405
69	1352	128	384	40	HIT	136	410
70	1405	128	128	40	HIT	143	143
71	1355	640	384	40	HIT	655	403
72	1273	384	640	40	HIT	400	662
73	1278	384	640	40	HIT	402	644
74	1275	384	640	40	HIT	408	656
75	1404	128	128	40	HIT	148	141
76	1354	384	384	40	HIT	403	390
77	1403	128	128	40	HIT	141	139
78	1151	640	896	40	HIT	653	920
79	1356	128	640	40	MISS	121	654
80	1274	384	640	40	HIT	401	655
81	1356	640	384	40	MISS	660	381
82	1107	640	896	40	HIT	647	903
83	1408	384	128	40	HIT	410	142
84	1354	128	384	40	HIT	142	399
85	1364	640	384	40	MISS	655	383
86	1349	128	896	40	HIT	138	919
87	1284	384	640	40	MISS	383	642
88	1357	128	384	40	HIT	143	402

89	1407	128	128	40	HIT	143	145
90	1357	128	384	40	HIT	144	400
91	1354	128	384	40	HIT	152	399
92	1406	640	128	40	HIT	657	148
93	1272	640	640	40	HIT	653	656
94	1406	384	128	40	HIT	403	144
95	1352	128	896	40	HIT	138	920
96	1357	128	896	40	HIT	132	919
97	1357	640	384	40	HIT	660	391
98	1406	384	128	40	HIT	405	140
99	1355	128	384	40	HIT	139	398
100	1357	640	384	40	HIT	653	399
101	1355	384	384	40	HIT	409	393
102	1354	384	384	40	HIT	399	401
103	1355	640	384	40	HIT	667	399
104	1348	128	896	40	HIT	137	913
105	1350	128	896	40	HIT	147	896
106	1271	384	896	40	HIT	392	910
107	1404	384	128	40	HIT	397	148
108	1102	640	896	40	HIT	646	898
109	1407	128	128	40	HIT	149	135
110	1348	128	640	40	HIT	146	662
111	1415	384	128	40	HIT	397	134
112	1356	640	384	40	HIT	647	391
113	1256	384	896	40	HIT	399	919
114	1268	640	640	40	HIT	660	660
115	1406	128	128	40	HIT	153	128
116	1360	384	384	40	HIT	401	390
117	1406	640	128	40	HIT	651	148
118	1346	128	896	40	HIT	146	921
119	1406	384	128	40	HIT	404	143
120	1355	384	384	40	HIT	393	409
121	1349	128	640	40	HIT	145	656
122	1354	128	384	40	HIT	140	392
123	1357	128	384	40	HIT	142	387
124	1361	384	384	40	HIT	391	406
125	1405	384	128	40	HIT	387	147
126	1356	384	384	40	HIT	411	391
127	1347	128	640	40	HIT	147	643
128	1280	384	896	40	HIT	403	913
129	1129	640	896	40	HIT	657	921
130	1354	128	384	40	MISS	126	407
131	1355	640	384	40	HIT	658	386
132	1356	640	384	40	HIT	669	400
133	1406	384	128	40	HIT	406	138
134	1347	128	640	40	HIT	147	657

135	1116	640	896	40	HIT	641	915
136	1354	384	384	40	HIT	394	409
137	1410	128	128	40	MISS	140	127
138	1281	384	896	40	HIT	392	902
139	1403	640	128	40	HIT	661	144
140	1352	384	384	40	HIT	405	397
141	1406	640	128	40	HIT	671	144
142	1354	640	384	40	HIT	647	400
143	1347	128	640	40	HIT	147	651
144	1348	128	896	40	HIT	148	909
145	1407	640	128	40	HIT	658	141
146	1353	640	384	40	HIT	656	404
147	1094	640	896	40	HIT	653	902
148	1343	128	640	40	HIT	137	672
149	1282	640	640	40	HIT	658	650
150	1407	640	128	40	HIT	668	145
151	1349	128	640	40	HIT	143	648
152	1348	128	640	40	HIT	128	661
153	1128	640	896	40	HIT	643	897
154	1270	384	896	40	HIT	394	912
155	1349	128	640	40	HIT	142	662
156	1287	640	640	40	HIT	674	645
157	1273	640	640	40	HIT	664	657
158	1406	640	128	40	HIT	663	145
159	1359	384	384	40	HIT	388	391
160	1274	640	640	40	HIT	655	656
161	1261	384	896	40	HIT	389	930
162	1063	640	896	40	HIT	654	918
163	1277	384	640	40	HIT	389	655
164	1409	640	128	40	HIT	673	137
165	1407	384	128	40	HIT	415	144
166	1352	128	640	40	HIT	140	655
167	1112	640	896	40	HIT	652	911
168	1359	640	384	40	HIT	647	397
169	1277	384	896	40	MISS	373	910
170	1271	384	896	40	MISS	381	921
171	1409	640	128	40	HIT	658	145
172	1405	128	128	40	HIT	141	139
173	1354	384	384	40	HIT	397	404
174	1406	640	128	40	HIT	659	141
175	1349	128	896	40	HIT	138	899
176	1409	640	128	40	MISS	664	121
177	1277	384	640	40	MISS	408	636
178	1414	384	128	40	HIT	417	133
179	1351	128	896	40	HIT	149	909
180	1348	128	896	40	HIT	147	917

181	1407	640	128	40	HIT	663	132
182	1076	640	896	40	HIT	662	911
183	1352	128	896	40	HIT	147	902
184	1073	640	896	40	HIT	663	907
185	1357	640	384	40	HIT	668	398
186	1407	384	128	40	HIT	411	145
187	1273	384	640	40	HIT	411	646
188	1350	128	896	40	HIT	148	912
189	1292	640	640	40	HIT	662	658
190	1360	128	384	40	HIT	130	395
191	1274	384	640	40	HIT	402	651
192	1351	128	640	40	HIT	136	655
193	1407	640	128	40	HIT	652	138
194	1355	640	384	40	HIT	669	390
195	1277	384	640	40	HIT	385	659
196	1408	640	128	40	HIT	651	141
197	1404	640	128	40	HIT	662	146
198	1405	640	128	40	HIT	657	144
199	1280	640	640	40	HIT	676	647
200	1406	640	128	40	HIT	659	139
201	1351	128	640	40	HIT	138	651
202	1358	640	384	40	HIT	662	386
203	1276	384	896	40	MISS	369	903
204	1254	640	640	40	HIT	651	662
205	1407	640	128	40	MISS	694	146
206	1404	384	128	40	HIT	415	139
207	1406	384	128	40	HIT	394	149
208	1091	640	896	40	HIT	660	903
209	1403	384	128	40	HIT	400	149
210	1355	640	384	40	HIT	661	399
211	1350	128	896	40	HIT	141	928
212	1280	384	896	40	HIT	402	914
213	1359	128	640	40	MISS	107	658
214	1403	640	128	40	HIT	657	144
215	1276	384	640	40	HIT	413	644
216	1272	384	640	40	HIT	397	655
217	1276	640	640	40	HIT	666	651
218	1408	384	128	40	HIT	396	132
219	1347	128	640	40	HIT	136	651
220	1309	384	640	40	HIT	397	659
221	1406	384	128	40	HIT	409	145
222	1094	640	896	40	HIT	659	908
223	1352	128	384	40	HIT	148	392
224	1414	128	128	40	MISS	126	118
225	1407	640	128	40	HIT	666	144
226	1261	384	896	40	HIT	387	934

227	1402	640	128	40	HIT	649	141
228	1261	384	896	40	HIT	397	912
229	1408	128	128	40	MISS	162	113
230	1357	384	384	40	HIT	395	393
231	1353	128	640	40	HIT	147	658
232	1270	384	896	40	HIT	386	914
233	1349	128	896	40	HIT	148	916
234	1348	128	384	40	MISS	126	409
235	1355	128	384	40	MISS	152	382
236	1353	128	384	40	HIT	150	392
237	1119	640	896	40	HIT	651	904
238	1284	384	640	40	HIT	390	660
239	1108	640	896	40	HIT	658	915
240	1349	128	896	40	HIT	145	921
241	1355	128	384	40	HIT	137	398
242	1355	384	384	40	HIT	401	400
243	1353	384	384	40	HIT	407	399
244	1356	128	384	40	HIT	142	398
245	1361	384	384	40	HIT	396	400
246	1352	128	384	40	HIT	146	396
247	1403	640	128	40	MISS	635	147
248	1350	128	896	40	HIT	148	909
249	1361	128	896	40	MISS	122	914
250	1275	384	896	40	MISS	383	935
251	1405	640	128	40	HIT	655	148
252	1367	640	384	40	HIT	653	390
253	1355	640	384	40	HIT	662	400
254	1406	640	128	40	HIT	663	139
255	1352	128	896	40	HIT	134	918
256	1367	384	384	40	HIT	397	387
257	1406	640	128	40	HIT	652	142
258	1405	384	128	40	HIT	410	143
259	1356	640	384	40	HIT	649	394
260	1355	128	384	40	HIT	138	404
261	1279	384	640	40	HIT	396	659
262	1356	640	384	40	HIT	660	403
263	1356	128	384	40	HIT	150	393
264	1276	384	640	40	MISS	408	636
265	1406	128	128	40	HIT	150	144
266	1357	384	384	40	HIT	393	394
267	1350	128	640	40	HIT	132	653
268	1288	640	640	40	HIT	658	647
269	1274	640	640	40	HIT	653	655
270	1357	384	384	40	HIT	384	400
271	1360	128	384	40	HIT	132	403
272	1287	640	640	40	HIT	649	655

273	1262	384	896	40	HIT	401	915
274	1269	384	896	40	HIT	395	913
275	1074	640	896	40	HIT	655	917
276	1406	384	128	40	HIT	399	141
277	1269	384	896	40	HIT	398	906
278	1404	384	128	40	HIT	396	137
279	1408	384	128	40	HIT	393	142
280	1359	128	384	40	HIT	135	395
281	1360	640	384	40	HIT	650	392
282	1408	128	128	40	HIT	137	151
283	1403	128	128	40	HIT	143	142
284	1351	128	640	40	MISS	123	664
285	1287	384	640	40	MISS	383	640
286	1407	640	128	40	HIT	669	141
287	1353	128	384	40	HIT	138	403
288	1361	128	384	40	MISS	126	373
289	1273	640	640	40	HIT	652	650
290	1405	384	128	40	HIT	403	147
291	1402	640	128	40	HIT	652	147
292	1363	128	384	40	MISS	125	392
293	1278	384	640	40	MISS	378	658
294	1405	128	128	40	HIT	147	143
295	1359	640	384	40	HIT	654	395
296	1098	640	896	40	HIT	650	908
297	1091	640	896	40	HIT	649	917
298	1267	640	640	40	HIT	668	649
299	1358	128	384	40	HIT	143	385
300	1350	128	896	40	HIT	144	915
301	1362	640	384	40	HIT	661	404
302	1406	128	128	40	HIT	138	142
303	1358	128	384	40	MISS	119	382
304	1350	128	640	40	HIT	141	653
305	1404	384	128	40	HIT	397	149
306	1274	384	640	40	HIT	401	648
307	1357	128	384	40	HIT	141	391
308	1133	640	896	40	HIT	657	911
309	1283	640	640	40	HIT	655	641
310	1404	128	128	40	HIT	149	145
311	1278	384	896	40	HIT	391	904
312	1088	640	896	40	HIT	646	913
313	1082	640	896	40	HIT	659	914
314	1095	640	896	40	HIT	661	911
315	1346	128	896	40	HIT	144	924
316	1272	640	640	40	HIT	658	657
317	1354	384	384	40	HIT	401	401
318	1406	384	128	40	HIT	409	146

319	1354	128	384	40	HIT	149	395
320	1273	384	640	40	HIT	397	656
321	1348	128	640	40	HIT	137	658
322	1088	640	896	40	HIT	660	909
323	1085	640	896	40	HIT	656	910
324	1409	384	128	40	HIT	392	149
325	1355	640	384	40	HIT	660	403
326	1276	640	640	40	HIT	657	655
327	1350	128	640	40	HIT	136	643
328	1404	128	128	40	HIT	141	152
329	1348	128	896	40	HIT	145	910
330	1264	384	896	40	HIT	399	903
331	1361	128	384	40	HIT	145	398
332	1281	640	640	40	HIT	657	651
333	1406	128	128	40	HIT	145	136
334	1352	128	640	40	HIT	144	648
335	1406	128	128	40	HIT	132	150
336	1075	640	896	40	HIT	652	902
337	1284	384	640	40	HIT	395	657
338	1063	640	896	40	HIT	658	915
339	1285	640	640	40	HIT	658	646
340	1348	128	640	40	HIT	140	651
341	1281	384	896	40	HIT	389	898
342	1347	128	640	40	HIT	147	658
343	1091	640	896	40	HIT	652	910
344	1405	384	128	40	HIT	400	140
345	1348	128	640	40	HIT	141	658
346	1270	384	896	40	HIT	395	918
347	1356	128	896	40	HIT	142	920
348	1406	128	128	40	HIT	142	147
349	1405	640	128	40	HIT	662	144
350	1349	128	896	40	HIT	138	912
351	1401	128	128	40	HIT	141	143
352	1288	640	640	40	HIT	648	654
353	1347	128	896	40	HIT	144	900
354	1286	640	640	40	MISS	662	638
355	1406	128	128	40	HIT	137	142
356	1361	128	384	40	MISS	141	381
357	1413	640	128	40	MISS	645	120
358	1128	640	896	40	HIT	648	903
359	1353	128	640	40	HIT	135	642
360	1351	128	896	40	HIT	140	911
361	1403	384	128	40	HIT	402	132
362	1286	384	640	40	HIT	394	644
363	1265	640	640	40	HIT	667	655
364	1278	640	640	40	HIT	658	657

365	1350	128	896	40	HIT	139	912
366	1357	128	384	40	HIT	145	406
367	1278	384	640	40	HIT	403	658
368	1346	128	640	40	HIT	144	640
369	1356	128	384	40	HIT	134	391
370	1266	640	640	40	HIT	666	659
371	1355	128	384	40	HIT	135	409
372	1408	128	128	40	HIT	147	146
373	1087	640	896	40	HIT	665	899
374	1408	640	128	40	HIT	659	140
375	1355	640	384	40	HIT	659	396
376	1404	128	128	40	HIT	154	137
377	1349	128	640	40	HIT	148	650
378	1359	384	384	40	HIT	386	394
379	1408	384	128	40	HIT	402	133
380	1402	384	128	40	HIT	406	146
381	1079	640	896	40	HIT	664	914
382	1354	128	640	40	HIT	145	661
383	1289	384	640	40	HIT	399	663
384	1351	128	896	40	HIT	137	924
385	1354	128	384	40	HIT	153	391
386	1354	128	640	40	HIT	142	653
387	1357	384	384	40	HIT	395	388
388	1363	128	384	40	MISS	134	375
389	1360	128	896	40	MISS	114	909
390	1362	384	384	40	HIT	396	401
391	1255	384	896	40	HIT	404	916
392	1356	384	384	40	HIT	402	404
393	1405	640	128	40	HIT	648	141
394	1354	640	384	40	HIT	660	399
395	1409	128	128	40	HIT	156	137
396	1354	128	384	40	HIT	139	403
397	1405	128	128	40	HIT	144	148
398	1095	640	896	40	HIT	659	915
399	1077	640	896	40	HIT	647	910
400	1345	128	896	40	HIT	146	920
401	1354	640	384	40	HIT	648	400
402	1360	384	384	40	HIT	385	387
403	1352	128	896	40	HIT	137	905
404	1070	640	896	40	MISS	655	885
405	1266	384	896	40	HIT	393	924
406	1404	128	128	40	HIT	150	133
407	1082	640	896	40	HIT	653	916
408	1407	128	128	40	HIT	140	148
409	1352	640	384	40	HIT	660	399
410	1278	640	640	40	HIT	670	658

411	1349	128	640	40	HIT	131	654
412	1270	384	896	40	HIT	396	911
413	1412	640	128	40	HIT	659	148
414	1258	384	896	40	HIT	399	907
415	1265	384	896	40	HIT	400	905
416	1361	128	384	40	HIT	131	395
417	1349	128	384	40	HIT	134	414
418	1273	640	640	40	HIT	661	654
419	1258	384	896	40	HIT	401	922
420	1276	640	640	40	HIT	659	653
421	1274	640	640	40	HIT	671	652
422	1407	640	128	40	HIT	656	142
423	1260	384	896	40	HIT	386	907
424	1262	384	896	40	HIT	399	909
425	1277	384	896	40	HIT	390	915
426	1404	128	128	40	HIT	135	147
427	1277	384	640	40	HIT	389	655
428	1354	128	384	40	HIT	147	394
429	1353	128	896	40	HIT	145	907
430	1359	640	384	40	HIT	661	385
431	1278	384	640	40	HIT	400	657
432	1270	384	896	40	HIT	398	914
433	1281	384	896	40	HIT	394	914
434	1355	128	384	40	HIT	139	402
435	1275	640	640	40	HIT	654	661
436	1279	640	640	40	HIT	658	646
437	1350	128	896	40	HIT	148	910
438	1278	384	896	40	MISS	373	901
439	1356	128	384	40	HIT	142	399
440	1352	128	384	40	HIT	145	402
441	1361	640	384	40	HIT	653	401
442	1356	384	384	40	HIT	399	393
443	1355	640	384	40	HIT	657	399
444	1272	640	640	40	HIT	658	656
445	1406	128	128	40	HIT	150	146
446	1081	640	896	40	HIT	665	907
447	1360	384	384	40	HIT	398	390
448	1360	384	384	40	HIT	402	403
449	1273	640	640	40	HIT	659	653
450	1275	640	640	40	HIT	645	659
451	1270	384	896	40	HIT	396	917
452	1358	640	384	40	HIT	665	398
453	1404	640	128	40	HIT	658	146
454	1277	640	640	40	HIT	659	647
455	1347	128	640	40	HIT	128	655
456	1363	128	384	40	MISS	127	390

457	1274	384	640	40	HIT	399	653
458	1360	128	384	40	HIT	149	389
459	1358	128	896	40	HIT	140	928
460	1404	384	128	40	MISS	419	122
461	1347	128	640	40	HIT	137	652
462	1363	640	384	40	HIT	655	399
463	1082	640	896	40	HIT	657	911
464	1277	384	640	40	HIT	403	652
465	1274	384	896	40	HIT	395	918
466	1291	640	640	40	HIT	667	651
467	1352	128	640	40	HIT	139	662
468	1273	384	896	40	HIT	399	911
469	1279	640	640	40	HIT	647	647
470	1273	640	640	40	HIT	656	659
471	1068	640	896	40	HIT	659	914
472	1405	640	128	40	HIT	666	145
473	1273	384	640	40	HIT	396	653
474	1353	128	384	40	MISS	153	382
475	1403	384	128	40	HIT	402	140
476	1351	128	896	40	HIT	139	907
477	1356	128	384	40	HIT	139	402
478	1411	640	128	40	HIT	658	141
479	1350	128	896	40	HIT	132	906
480	1355	128	896	40	HIT	146	920
481	1356	640	384	40	HIT	664	397
482	1346	128	896	40	HIT	144	913
483	1064	640	896	40	HIT	651	915
484	1352	384	384	40	HIT	403	399
485	1076	640	896	40	HIT	656	910
486	1409	384	128	40	HIT	396	138
487	1406	640	128	40	HIT	663	138
488	1276	640	640	40	HIT	653	660
489	1405	128	128	40	HIT	140	141
490	1402	384	128	40	HIT	405	143
491	1356	128	384	40	MISS	123	415
492	1277	384	896	40	HIT	398	913
493	1272	384	640	40	HIT	398	650
494	1077	640	896	40	HIT	644	913
495	1077	640	896	40	HIT	669	910
496	1352	128	384	40	HIT	136	415
497	1271	384	896	40	HIT	401	908
498	1275	384	640	40	HIT	394	664
499	1275	640	640	40	HIT	660	653
500	1257	384	896	40	HIT	401	912
501	1273	384	640	40	HIT	415	644
502	1269	384	896	40	HIT	400	926

503	1293	384	896	40	HIT	391	908
504	1353	640	384	40	HIT	665	404
505	1356	640	384	40	HIT	665	395
506	1282	640	640	40	HIT	659	659
507	1348	128	896	40	HIT	147	913
508	1085	640	896	40	HIT	655	919
509	1356	384	384	40	HIT	396	393
510	1355	384	384	40	HIT	408	398
511	1360	640	384	40	HIT	668	390
512	1276	384	640	40	HIT	394	648
513	1259	384	896	40	HIT	400	922
514	1360	128	384	40	HIT	137	410
515	1406	640	128	40	HIT	661	139
516	1355	640	384	40	HIT	661	399
517	1409	384	128	40	HIT	396	133
518	1272	384	640	40	HIT	399	658
519	1358	128	384	40	HIT	128	400
520	1415	128	128	40	HIT	151	135
521	1078	640	896	40	HIT	654	915
522	1085	640	896	40	HIT	651	917
523	1346	128	896	40	MISS	147	892
524	1405	640	128	40	HIT	664	129
525	1355	384	384	40	HIT	401	404
526	1274	640	640	40	MISS	637	660
527	1355	640	384	40	HIT	662	397
528	1404	128	128	40	HIT	139	151
529	1404	384	128	40	HIT	410	139
530	1355	384	384	40	HIT	401	402
531	1277	384	640	40	HIT	405	653
532	1263	384	896	40	HIT	402	924
533	1350	384	384	40	HIT	406	401
534	1273	384	640	40	HIT	403	660
535	1409	384	128	40	MISS	411	126
536	1356	640	384	40	HIT	655	392
537	1407	128	128	40	HIT	142	147
538	1405	640	128	40	HIT	659	146
539	1347	128	640	40	HIT	152	649
540	1358	640	384	40	HIT	672	403
541	1078	640	896	40	HIT	650	920
542	1280	384	896	40	HIT	393	921
543	1088	640	896	40	HIT	653	914
544	1409	384	128	40	HIT	410	138
545	1408	640	128	40	HIT	670	132
546	1408	640	128	40	HIT	650	148
547	1356	384	384	40	MISS	415	383
548	1274	640	640	40	HIT	654	656

549	1355	128	384	40	HIT	133	394
550	1276	384	896	40	HIT	389	929
551	1358	128	384	40	HIT	136	398
552	1356	128	896	40	HIT	143	916
553	1355	384	384	40	HIT	400	399
554	1407	384	128	40	HIT	406	137
555	1264	384	896	40	HIT	389	911
556	1353	128	896	40	HIT	143	926
557	1110	640	896	40	HIT	649	897
558	1272	384	896	40	HIT	397	920
559	1358	384	384	40	MISS	404	372
560	1269	640	640	40	HIT	645	656
561	1405	640	128	40	HIT	649	144
562	1408	640	128	40	HIT	650	146
563	1407	384	128	40	HIT	395	146
564	1404	640	128	40	HIT	667	147
565	1064	640	896	40	HIT	662	912
566	1348	128	640	40	HIT	136	671
567	1357	128	896	40	HIT	134	924
568	1405	384	128	40	HIT	408	142
569	1351	128	640	40	MISS	127	660
570	1404	128	128	40	HIT	143	146
571	1353	640	384	40	HIT	665	398
572	1405	640	128	40	HIT	667	144
573	1355	128	384	40	HIT	136	394
574	1345	128	896	40	HIT	144	921
575	1266	384	896	40	HIT	393	909
576	1273	640	640	40	HIT	661	651
577	1404	128	128	40	HIT	133	156
578	1405	384	128	40	HIT	404	135
579	1063	640	896	40	HIT	664	912
580	1349	128	896	40	HIT	146	908
581	1353	128	896	40	HIT	130	919
582	1351	128	384	40	HIT	140	399
583	1358	128	384	40	HIT	144	403
584	1409	384	128	40	HIT	388	139
585	1405	128	128	40	HIT	151	139
586	1355	384	384	40	HIT	398	395
587	1354	384	384	40	HIT	403	400
588	1357	640	384	40	HIT	663	395
589	1355	128	640	40	MISS	121	643
590	1076	640	896	40	HIT	651	909
591	1272	640	640	40	HIT	647	648
592	1352	384	384	40	HIT	404	402
593	1405	128	128	40	MISS	123	141
594	1356	128	640	40	HIT	152	648

595	1274	384	896	40	HIT	386	915
596	1353	128	384	40	HIT	149	397
597	1408	640	128	40	HIT	662	145
598	1283	384	640	40	HIT	399	655
599	1404	128	128	40	HIT	147	145
600	1353	128	896	40	HIT	141	932
601	1403	128	128	40	HIT	136	151
602	1264	384	896	40	HIT	398	917
603	1406	640	128	40	HIT	644	147
604	1358	384	384	40	HIT	390	387
605	1408	128	128	40	HIT	151	138
606	1408	640	128	40	HIT	653	138
607	1279	384	640	40	MISS	381	645
608	1351	640	384	40	HIT	662	399
609	1357	128	384	40	HIT	151	401
610	1407	128	128	40	MISS	138	127
611	1075	640	896	40	HIT	658	918
612	1348	128	640	40	HIT	135	670
613	1281	384	640	40	HIT	408	654
614	1271	384	896	40	HIT	390	904
615	1355	128	640	40	HIT	142	645
616	1350	640	384	40	HIT	657	395
617	1355	640	384	40	HIT	665	393
618	1359	128	384	40	MISS	124	403
619	1285	640	640	40	HIT	659	660
620	1405	384	128	40	HIT	400	142
621	1343	128	640	40	HIT	138	672
622	1261	384	896	40	HIT	403	919
623	1403	384	128	40	HIT	399	150
624	1275	384	640	40	HIT	407	651
625	1274	640	640	40	HIT	656	652
626	1271	384	896	40	HIT	393	916
627	1356	128	896	40	HIT	128	911
628	1406	128	128	40	HIT	139	151
629	1275	384	896	40	MISS	383	926
630	1403	640	128	40	HIT	661	148
631	1273	640	640	40	HIT	659	656
632	1404	128	128	40	HIT	146	145
633	1353	384	384	40	HIT	397	401
634	1407	128	128	40	HIT	136	144
635	1407	640	128	40	HIT	669	140
636	1406	640	128	40	HIT	668	145
637	1270	640	640	40	HIT	657	657
638	1350	128	896	40	HIT	138	909
639	1282	384	640	40	HIT	395	652
640	1406	640	128	40	HIT	667	144

641	1353	128	384	40	HIT	143	403
642	1067	640	896	40	HIT	666	909
643	1408	128	128	40	HIT	142	135
644	1358	384	384	40	HIT	392	387
645	1348	128	896	40	HIT	144	921
646	1359	128	896	40	HIT	137	913
647	1354	128	640	40	HIT	139	657
648	1405	384	128	40	HIT	411	141
649	1277	384	640	40	HIT	392	650
650	1346	128	896	40	HIT	145	920
651	1353	128	384	40	HIT	138	402
652	1354	128	384	40	HIT	132	393
653	1266	640	640	40	HIT	665	652
654	1406	128	128	40	HIT	150	135
655	1406	128	128	40	HIT	152	135
656	1085	640	896	40	HIT	660	913
657	1273	384	896	40	HIT	398	917
658	1351	640	384	40	HIT	664	400
659	1406	640	128	40	HIT	659	142
660	1405	640	128	40	HIT	672	147
661	1348	128	640	40	HIT	140	652
662	1266	384	896	40	HIT	398	927
663	1401	128	128	40	HIT	130	157
664	1358	384	384	40	MISS	400	382
665	1266	640	640	40	HIT	669	658
666	1273	640	640	40	HIT	670	654
667	1259	384	896	40	HIT	390	909
668	1273	640	640	40	HIT	644	658
669	1074	640	896	40	HIT	659	915
670	1405	640	128	40	HIT	661	144
671	1349	128	640	40	MISS	124	645
672	1408	384	128	40	HIT	389	151
673	1408	640	128	40	HIT	653	139
674	1409	384	128	40	HIT	400	142
675	1352	384	384	40	HIT	394	400
676	1352	128	384	40	HIT	142	404
677	1404	384	128	40	HIT	404	135
678	1349	128	896	40	HIT	146	920
679	1408	640	128	40	HIT	658	137
680	1093	640	896	40	HIT	654	920
681	1364	128	640	40	HIT	136	659
682	1402	384	128	40	HIT	384	142
683	1072	640	896	40	HIT	655	917
684	1353	640	384	40	HIT	663	399
685	1260	384	896	40	HIT	395	923
686	1349	128	896	40	HIT	143	919

687	1405	640	128	40	HIT	652	148
688	1280	384	640	40	HIT	395	649
689	1405	128	128	40	HIT	141	148
690	1365	128	384	40	HIT	156	393
691	1268	384	896	40	HIT	400	910
692	1287	384	640	40	HIT	402	658
693	1358	384	384	40	HIT	398	402
694	1352	384	384	40	HIT	409	397
695	1407	128	128	40	HIT	135	132
696	1355	640	384	40	HIT	667	400
697	1354	384	384	40	HIT	410	398
698	1266	384	896	40	HIT	401	925
699	1354	128	896	40	HIT	135	926
700	1350	128	896	40	HIT	142	926
701	1408	128	128	40	HIT	155	138
702	1282	384	640	40	MISS	379	645
703	1355	128	896	40	HIT	145	921
704	1274	384	640	40	HIT	390	645
705	1268	384	896	40	HIT	398	911
706	1127	640	896	40	MISS	635	921
707	1132	640	896	40	HIT	643	904
708	1405	384	128	40	HIT	400	149
709	1357	640	384	40	HIT	665	388
710	1356	384	384	40	HIT	404	389
711	1355	640	384	40	HIT	663	391
712	1357	384	384	40	HIT	412	393
713	1347	128	896	40	HIT	147	914
714	1397	384	128	40	HIT	393	143
715	1269	384	896	40	HIT	392	922
716	1366	384	384	40	HIT	414	398
717	1348	128	640	40	HIT	142	661
718	1352	128	384	40	HIT	149	399
719	1354	640	384	40	HIT	667	397
720	1353	640	384	40	HIT	671	396
721	1411	384	128	40	HIT	398	139
722	1351	128	896	40	HIT	140	918
723	1283	384	640	40	HIT	397	649
724	1262	384	896	40	HIT	396	907
725	1273	384	896	40	HIT	393	917
726	1405	128	128	40	HIT	135	134
727	1261	384	896	40	MISS	407	884
728	1360	640	384	40	HIT	663	394
729	1357	384	384	40	MISS	391	379
730	1288	640	640	40	HIT	662	653
731	1349	128	896	40	HIT	143	918
732	1355	128	384	40	HIT	130	416

733	1352	384	384	40	HIT	405	398
734	1354	128	896	40	HIT	141	919
735	1289	640	640	40	HIT	653	650
736	1357	128	384	40	HIT	146	400
737	1352	640	384	40	HIT	670	398
738	1112	640	896	40	HIT	659	902
739	1357	128	384	40	HIT	144	401
740	1272	640	640	40	HIT	668	659
741	1358	384	384	40	HIT	392	390
742	1350	128	640	40	HIT	139	645
743	1362	128	640	40	HIT	136	645
744	1351	128	896	40	HIT	139	918
745	1352	640	384	40	HIT	663	398
746	1255	384	896	40	HIT	402	899
747	1278	384	640	40	HIT	397	653
748	1268	384	640	40	HIT	400	662
749	1357	128	384	40	HIT	129	387
750	1084	640	896	40	HIT	649	916
751	1354	640	384	40	HIT	664	395
752	1272	640	640	40	HIT	659	658
753	1407	128	128	40	HIT	143	143
754	1353	128	384	40	HIT	139	397
755	1262	384	896	40	HIT	401	907
756	1365	640	384	40	HIT	661	385
757	1405	128	128	40	HIT	149	143
758	1405	384	128	40	HIT	390	139
759	1355	640	384	40	MISS	681	398
760	1276	384	640	40	HIT	404	644
761	1403	384	128	40	HIT	409	146
762	1349	128	640	40	HIT	134	657
763	1351	128	640	40	HIT	147	659
764	1286	384	896	40	HIT	403	916
765	1348	128	640	40	HIT	135	660
766	1354	640	384	40	HIT	672	393
767	1275	384	640	40	HIT	390	654
768	1357	128	384	40	HIT	144	396
769	1408	384	128	40	HIT	404	140
770	1276	640	640	40	HIT	657	657
771	1406	640	128	40	HIT	655	145
772	1357	128	384	40	MISS	147	364
773	1406	640	128	40	HIT	658	142
774	1274	384	640	40	HIT	403	656
775	1409	640	128	40	HIT	663	144
776	1359	640	384	40	HIT	653	392
777	1261	384	896	40	HIT	398	926
778	1355	128	384	40	HIT	135	406

779	1348	128	640	40	HIT	146	659
780	1080	640	896	40	HIT	662	913
781	1357	128	640	40	MISS	143	635
782	1288	384	640	40	MISS	392	602
783	1260	384	896	40	HIT	399	915
784	1283	384	640	40	HIT	399	654
785	1264	640	640	40	HIT	661	651
786	1282	384	640	40	HIT	396	644
787	1351	128	896	40	HIT	139	922
788	1063	640	896	40	HIT	661	909
789	1352	640	384	40	HIT	666	396
790	1349	128	896	40	HIT	143	920
791	1405	384	128	40	HIT	397	142
792	1407	384	128	40	HIT	397	135
793	1353	640	384	40	HIT	662	398
794	1353	128	896	40	HIT	142	903
795	1348	128	640	40	HIT	143	655
796	1360	640	384	40	HIT	658	391
797	1275	384	640	40	MISS	414	637
798	1091	640	896	40	MISS	635	902
799	1353	384	384	40	HIT	395	404
800	1271	384	640	40	HIT	409	655
801	1281	384	640	40	HIT	393	641
802	1402	640	128	40	MISS	634	150
803	1358	384	384	40	HIT	404	391
804	1351	640	384	40	HIT	658	402
805	1353	128	384	40	MISS	154	383
806	1359	128	384	40	HIT	136	398
807	1270	384	640	40	HIT	401	645
808	1405	128	128	40	MISS	119	156
809	1403	128	128	40	HIT	139	149
810	1084	640	896	40	HIT	666	907
811	1103	640	896	40	HIT	647	919
812	1286	384	640	40	HIT	387	640
813	1355	128	896	40	HIT	141	907
814	1358	128	384	40	HIT	134	413
815	1278	384	640	40	HIT	386	653
816	1359	640	384	40	HIT	642	397
817	1344	128	896	40	HIT	142	906
818	1362	128	384	40	HIT	129	401
819	1276	384	640	40	HIT	398	651
820	1406	640	128	40	HIT	670	139
821	1086	640	896	40	HIT	646	911
822	1407	128	128	40	HIT	134	137
823	1352	128	640	40	HIT	132	654
824	1272	384	640	40	HIT	394	664

825	1355	128	384	40	HIT	132	406
826	1357	640	384	40	HIT	661	403
827	1274	384	640	40	HIT	403	650
828	1407	384	128	40	HIT	414	144
829	1406	128	128	40	HIT	130	146
830	1403	128	128	40	HIT	156	139
831	1404	128	128	40	HIT	156	142
832	1407	128	128	40	HIT	135	148
833	1348	128	640	40	HIT	148	651
834	1359	640	384	40	HIT	657	402
835	1342	128	896	40	HIT	142	905
836	1063	640	896	40	HIT	657	909
837	1351	128	896	40	HIT	138	923
838	1349	128	896	40	HIT	147	914
839	1063	640	896	40	HIT	670	903
840	1278	640	640	40	HIT	654	660
841	1351	128	896	40	MISS	125	909
842	1352	128	896	40	HIT	146	916
843	1407	128	128	40	MISS	146	126
844	1281	640	640	40	HIT	670	659
845	1355	640	384	40	HIT	648	403
846	1274	640	640	40	HIT	659	657
847	1410	384	128	40	HIT	411	140
848	1276	384	640	40	HIT	392	661
849	1349	128	640	40	HIT	144	648
850	1358	128	640	40	HIT	141	651
851	1263	384	896	40	HIT	396	919
852	1345	384	384	40	HIT	408	398
853	1358	384	384	40	HIT	388	394
854	1407	128	128	40	HIT	132	149
855	1404	640	128	40	HIT	667	144
856	1276	640	640	40	HIT	658	654
857	1272	384	896	40	HIT	384	912
858	1403	128	128	40	HIT	143	149
859	1354	384	384	40	HIT	400	400
860	1407	384	128	40	HIT	404	142
861	1408	384	128	40	HIT	406	131
862	1406	640	128	40	HIT	667	138
863	1271	384	640	40	HIT	403	661
864	1270	384	640	40	HIT	396	657
865	1081	640	896	40	HIT	664	906
866	1352	384	384	40	HIT	403	403
867	1408	128	128	40	HIT	147	145
868	1413	128	128	40	HIT	152	144
869	1347	128	640	40	HIT	143	666
870	1411	640	128	40	HIT	667	136

871	1406	128	128	40	HIT	142	145
872	1275	640	640	40	HIT	660	659
873	1410	640	128	40	HIT	648	141
874	1353	384	384	40	HIT	404	402
875	1275	640	640	40	HIT	660	658
876	1415	384	128	40	MISS	389	118
877	1354	640	384	40	HIT	658	401
878	1405	640	128	40	HIT	666	146
879	1273	384	896	40	HIT	393	907
880	1063	640	896	40	HIT	658	905
881	1405	640	128	40	HIT	656	139
882	1345	128	640	40	HIT	145	658
883	1262	640	640	40	HIT	658	650
884	1273	640	640	40	HIT	644	654
885	1274	640	640	40	HIT	660	656
886	1344	128	640	40	HIT	139	662
887	1355	128	896	40	HIT	144	911
888	1354	640	384	40	HIT	652	392
889	1273	384	896	40	HIT	385	916
890	1279	384	640	40	MISS	375	654
891	1403	384	128	40	HIT	403	144
892	1354	128	896	40	HIT	143	913
893	1351	128	640	40	MISS	151	638
894	1280	640	640	40	HIT	663	657
895	1351	128	640	40	HIT	141	649
896	1407	128	128	40	HIT	145	129
897	1353	128	640	40	HIT	137	651
898	1282	384	640	40	HIT	407	656
899	1271	640	640	40	HIT	667	655
900	1347	128	640	40	HIT	141	668
901	1349	128	640	40	HIT	141	669
902	1410	640	128	40	HIT	661	145
903	1355	128	384	40	MISS	124	411
904	1404	384	128	40	HIT	407	143
905	1404	128	128	40	HIT	141	152
906	1277	640	640	40	HIT	667	658
907	1406	384	128	40	HIT	398	148
908	1281	384	640	40	HIT	394	653
909	1411	128	128	40	HIT	134	132
910	1274	384	640	40	HIT	400	655
911	1357	128	384	40	HIT	144	400
912	1354	384	384	40	HIT	401	399
913	1347	128	640	40	HIT	142	663
914	1404	384	128	40	HIT	401	141
915	1406	640	128	40	HIT	661	140
916	1350	128	640	40	HIT	138	648

917	1351	128	896	40	HIT	141	907
918	1365	128	384	40	MISS	141	383
919	1268	384	896	40	HIT	391	909
920	1282	640	640	40	HIT	656	652
921	1348	128	896	40	HIT	145	911
922	1102	640	896	40	HIT	657	902
923	1354	640	384	40	HIT	656	396
924	1273	384	640	40	HIT	404	657
925	1408	384	128	40	HIT	398	143
926	1405	128	128	40	HIT	145	150
927	1358	384	384	40	HIT	410	398
928	1355	384	384	40	HIT	392	392
929	1362	384	384	40	MISS	393	382
930	1263	384	896	40	HIT	406	907
931	1350	128	384	40	HIT	153	389
932	1406	128	128	40	HIT	157	140
933	1282	640	640	40	HIT	649	656
934	1411	128	128	40	HIT	150	139
935	1404	128	128	40	HIT	143	148
936	1281	384	640	40	HIT	397	651
937	1359	128	640	40	MISS	117	644
938	1091	640	896	40	HIT	665	909
939	1357	128	384	40	HIT	147	398
940	1085	640	896	40	HIT	652	903
941	1354	640	384	40	HIT	664	399
942	1280	384	640	40	MISS	382	649
943	1102	640	896	40	HIT	659	906
944	1356	128	384	40	HIT	143	395
945	1354	128	384	40	HIT	143	399
946	1359	384	384	40	HIT	388	400
947	1403	128	128	40	HIT	139	145
948	1351	128	896	40	HIT	140	912
949	1129	640	896	40	HIT	652	904
950	1349	128	896	40	HIT	143	916
951	1355	384	384	40	HIT	402	400
952	1279	384	640	40	HIT	400	650
953	1348	128	640	40	HIT	145	652
954	1407	640	128	40	HIT	664	134
955	1262	384	896	40	HIT	396	919
956	1406	384	128	40	HIT	406	143
957	1259	384	896	40	HIT	392	921
958	1348	384	384	40	HIT	399	400
959	1114	640	896	40	HIT	643	907
960	1362	384	384	40	HIT	409	398
961	1282	640	640	40	MISS	660	624
962	1349	128	640	40	HIT	147	657

963	1350	128	896	40	HIT	146	913
964	1345	384	384	40	HIT	403	399
965	1356	384	384	40	HIT	396	387
966	1407	384	128	40	HIT	396	142
967	1271	384	640	40	HIT	404	658
968	1357	384	384	40	HIT	402	393
969	1270	384	896	40	HIT	391	923
970	1404	384	128	40	HIT	401	132
971	1352	640	384	40	HIT	660	393
972	1286	384	640	40	HIT	387	656
973	1269	384	896	40	HIT	400	914
974	1407	640	128	40	HIT	654	138
975	1280	640	640	40	HIT	660	655
976	1357	384	384	40	HIT	399	401
977	1407	640	128	40	HIT	660	139
978	1095	640	896	40	HIT	653	904
979	1266	384	896	40	HIT	404	913
980	1353	128	384	40	HIT	129	393
981	1407	128	128	40	HIT	138	144
982	1405	640	128	40	HIT	659	143
983	1407	640	128	40	HIT	660	146
984	1404	128	128	40	HIT	147	136
985	1137	640	896	40	HIT	648	918
986	1407	128	128	40	HIT	141	146
987	1356	384	384	40	HIT	392	392
988	1288	384	640	40	HIT	392	659
989	1407	128	128	40	HIT	134	139
990	1270	384	896	40	HIT	403	918
991	1403	128	128	40	HIT	131	138
992	1063	640	896	40	HIT	661	914
993	1349	128	640	40	HIT	148	652
994	1349	128	640	40	HIT	145	659
995	1355	640	384	40	HIT	657	392
996	1346	128	640	40	HIT	145	654
997	1281	640	640	40	HIT	653	649
998	1353	640	384	40	HIT	668	401
999	1354	128	384	40	HIT	148	389
1000	1281	640	640	40	HIT	656	648
1001	1348	128	640	40	HIT	148	656
1002	1354	640	384	40	HIT	663	398
1003	1354	640	384	40	HIT	659	395
1004	1344	128	640	40	HIT	135	674
1005	1359	640	384	40	HIT	649	389
1006	1355	640	384	40	HIT	666	392
1007	1257	384	896	40	HIT	400	916
1008	1398	384	128	40	HIT	399	143

1009	1256	384	896	40	HIT	404	915
1010	1351	384	384	40	HIT	407	390
1011	1407	640	128	40	HIT	656	139
1012	1109	640	896	40	HIT	660	909
1013	1413	640	128	40	MISS	662	127
1014	1348	128	640	40	HIT	140	646
1015	1359	640	384	40	HIT	656	398
1016	1356	384	384	40	HIT	399	400
1017	1410	384	128	40	MISS	397	127
1018	1271	384	640	40	HIT	401	655
1019	1271	384	896	40	HIT	389	913
1020	1283	384	640	40	HIT	401	648
1021	1355	640	384	40	HIT	659	399
1022	1404	640	128	40	HIT	647	144
1023	1109	640	896	40	MISS	662	893
1024	1354	384	384	40	HIT	403	404
1025	1095	640	896	40	HIT	647	899
1026	1356	128	384	40	HIT	137	392
1027	1354	128	384	40	HIT	139	406
1028	1091	640	896	40	HIT	666	900
1029	1405	640	128	40	HIT	657	144
1030	1359	640	384	40	HIT	665	386
1031	1405	640	128	40	HIT	657	140
1032	1288	384	640	40	MISS	394	635
1033	1409	384	128	40	HIT	388	140
1034	1354	384	384	40	HIT	408	396
1035	1405	640	128	40	HIT	658	144
1036	1261	384	896	40	HIT	402	913
1037	1350	384	384	40	HIT	392	404
1038	1354	128	896	40	HIT	134	915
1039	1358	384	384	40	HIT	395	407
1040	1406	384	128	40	HIT	399	144
1041	1354	640	384	40	HIT	669	398
1042	1352	128	896	40	HIT	132	920
1043	1358	384	384	40	HIT	392	397
1044	1281	384	640	40	HIT	405	651
1045	1405	640	128	40	HIT	652	144
1046	1408	128	128	40	HIT	145	131
1047	1357	384	384	40	HIT	394	384
1048	1361	128	384	40	HIT	137	402
1049	1410	640	128	40	MISS	661	122
1050	1341	128	640	40	MISS	150	634
1051	1360	384	384	40	HIT	405	403
1052	1407	384	128	40	HIT	405	145
1053	1404	128	128	40	HIT	142	147
1054	1352	128	640	40	HIT	136	653

1055	1349	384	384	40	HIT	400	406
1056	1352	640	384	40	HIT	676	397
1057	1279	640	640	40	HIT	657	648
1058	1404	128	128	40	HIT	154	142
1059	1272	640	640	40	HIT	657	659
1060	1269	384	896	40	HIT	398	910
1061	1357	384	384	40	HIT	403	399
1062	1405	640	128	40	HIT	677	144
1063	1273	640	640	40	HIT	659	657
1064	1354	640	384	40	HIT	654	403
1065	1351	384	384	40	HIT	390	408
1066	1356	384	384	40	HIT	405	400
1067	1354	640	384	40	HIT	650	396
1068	1405	384	128	40	HIT	411	141
1069	1362	128	384	40	MISS	127	390
1070	1092	640	896	40	HIT	659	910
1071	1409	384	128	40	HIT	404	136
1072	1277	384	640	40	HIT	400	662
1073	1412	640	128	40	HIT	657	142
1074	1358	640	384	40	HIT	655	390
1075	1086	640	896	40	HIT	657	915
1076	1404	128	128	40	HIT	152	144
1077	1407	128	128	40	HIT	150	140
1078	1351	128	896	40	HIT	149	903
1079	1267	384	896	40	HIT	395	918
1080	1269	384	896	40	HIT	388	904
1081	1270	384	640	40	HIT	404	657
1082	1367	640	384	40	MISS	652	371
1083	1270	384	896	40	MISS	373	907
1084	1353	128	384	40	HIT	150	394
1085	1358	128	384	40	HIT	134	401
1086	1406	384	128	40	HIT	397	148
1087	1405	384	128	40	HIT	395	145
1088	1093	640	896	40	HIT	655	907
1089	1351	128	640	40	HIT	136	669
1090	1405	128	128	40	HIT	151	138
1091	1351	128	640	40	MISS	111	648
1092	1354	128	384	40	HIT	149	389
1093	1410	384	128	40	HIT	395	134
1094	1262	384	896	40	HIT	403	921
1095	1352	128	896	40	HIT	144	913
1096	1405	640	128	40	HIT	653	145
1097	1276	640	640	40	HIT	663	655
1098	1355	384	384	40	HIT	408	402
1099	1284	640	640	40	MISS	660	636
1100	1350	128	896	40	HIT	147	918

1101	1357	128	384	40	HIT	142	401
1102	1405	640	128	40	HIT	674	146
1103	1348	128	896	40	HIT	140	910
1104	1403	128	128	40	HIT	151	138
1105	1361	640	384	40	HIT	660	388
1106	1073	640	896	40	HIT	653	911
1107	1349	128	896	40	HIT	138	910
1108	1272	640	640	40	HIT	647	646
1109	1351	128	640	40	HIT	128	660
1110	1283	384	640	40	HIT	388	647
1111	1351	128	896	40	HIT	143	916
1112	1349	128	896	40	HIT	148	914
1113	1351	128	640	40	HIT	134	658
1114	1409	640	128	40	HIT	661	142
1115	1406	640	128	40	HIT	651	136
1116	1082	640	896	40	HIT	659	915
1117	1402	128	128	40	HIT	139	149
1118	1352	128	384	40	HIT	138	404
1119	1359	128	640	40	HIT	145	664
1120	1410	384	128	40	HIT	394	151
1121	1406	384	128	40	HIT	410	144
1122	1281	384	896	40	HIT	392	912
1123	1355	128	384	40	HIT	151	395
1124	1352	128	640	40	HIT	136	658
1125	1405	384	128	40	HIT	397	146
1126	1077	640	896	40	HIT	668	908
1127	1098	640	896	40	HIT	658	916
1128	1278	384	640	40	MISS	412	631
1129	1350	128	896	40	HIT	142	916
1130	1355	384	384	40	HIT	397	389
1131	1412	640	128	40	HIT	671	141
1132	1279	384	640	40	HIT	396	644
1133	1408	128	128	40	HIT	137	128
1134	1275	640	640	40	HIT	663	659
1135	1408	384	128	40	HIT	404	139
1136	1405	640	128	40	HIT	654	144
1137	1272	640	640	40	HIT	674	657
1138	1367	384	384	40	HIT	402	401
1139	1405	640	128	40	HIT	670	138
1140	1405	128	128	40	HIT	142	145
1141	1127	640	896	40	HIT	661	912
1142	1349	640	384	40	HIT	652	404
1143	1277	384	640	40	HIT	391	658
1144	1406	640	128	40	HIT	669	140
1145	1357	384	384	40	HIT	403	394
1146	1354	128	384	40	MISS	121	403

1147	1274	640	640	40	HIT	663	650
1148	1265	384	896	40	HIT	394	915
1149	1362	128	640	40	MISS	122	653
1150	1405	128	128	40	HIT	150	144
1151	1406	640	128	40	HIT	662	140
1152	1409	384	128	40	HIT	392	143
1153	1355	640	384	40	HIT	650	399
1154	1405	128	128	40	HIT	145	142
1155	1408	128	128	40	HIT	140	145
1156	1409	384	128	40	HIT	406	146
1157	1354	384	384	40	HIT	402	393
1158	1402	384	128	40	HIT	390	150
1159	1407	384	128	40	HIT	406	144
1160	1352	384	384	40	HIT	392	405
1161	1407	384	128	40	HIT	387	147
1162	1356	640	384	40	HIT	660	392
1163	1084	640	896	40	HIT	655	913
1164	1405	128	128	40	HIT	147	131
1165	1268	384	640	40	HIT	404	660
1166	1283	384	640	40	HIT	406	645
1167	1357	384	384	40	HIT	397	406
1168	1407	640	128	40	HIT	646	140
1169	1405	384	128	40	HIT	406	145
1170	1284	640	640	40	HIT	658	650
1171	1070	640	896	40	HIT	665	907
1172	1409	128	128	40	HIT	142	142
1173	1280	384	640	40	HIT	409	650
1174	1274	384	640	40	HIT	398	660
1175	1356	128	384	40	MISS	126	399
1176	1351	640	384	40	HIT	661	404
1177	1359	384	384	40	HIT	394	388
1178	1406	384	128	40	HIT	414	144
1179	1260	384	896	40	HIT	400	917
1180	1347	128	640	40	HIT	149	658
1181	1357	128	640	40	MISS	129	635
1182	1403	384	128	40	MISS	408	127
1183	1277	384	640	40	MISS	373	665
1184	1405	128	128	40	HIT	135	138
1185	1095	640	896	40	HIT	665	907
1186	1413	384	128	40	HIT	403	134
1187	1342	128	640	40	HIT	142	665
1188	1404	384	128	40	HIT	402	142
1189	1348	128	896	40	HIT	141	918
1190	1400	128	128	40	HIT	142	136
1191	1346	128	896	40	HIT	141	924
1192	1268	384	896	40	MISS	383	905

1193	1086	640	896	40	HIT	666	906
1194	1408	384	128	40	HIT	396	134
1195	1406	384	128	40	HIT	405	143
1196	1356	640	384	40	HIT	644	394
1197	1279	640	640	40	MISS	633	656
1198	1258	384	896	40	HIT	403	914
1199	1402	384	128	40	HIT	388	147