



## ICT Decision 2004-4 (Supplemental)

Grand Cayman, 22 June 2004

### **Reconsideration of ICTA Decision 2004-1: Imputation Test of Cable & Wireless (Cayman Islands) Limited Mobile Services**

#### *Summary of Decision 2004-4 (Supplemental)*

*(n.b. This is a summary of the main findings. It is provided for convenience only and does not constitute part of the decision. For a complete articulation of the Authority's analysis, findings, and directives, readers are to refer to the main text of this decision, which is available on the ICTA's website, [www.icta.ky](http://www.icta.ky).)*

*The Authority finds that none of C&W's eight postpaid plans satisfy the requirements of the updated imputation test. This is largely due to new cost information provided by C&W.*

*Having reviewed Digicel's proposed methodologies for estimating plan utilization, the Authority finds that it is more reasonable to rely on subscribers' actual plan utilization rather than the more theoretical method proposed by Digicel.*

*The Authority received, very late in the process, a submission by C&W stating that certain cost estimates were overstated and certain revenue sources were excluded. The Authority is concerned and disappointed with C&W in the lateness of this filing. C&W should not be the beneficiary of its failure to provide information that could have been provided much earlier in the process. However, given the importance of the information on mobile rates, the Authority has not refused outright C&W's latest submission. Paramount to the Authority is the public interest and impact of its decisions upon the marketplace and consumers.*

*The Authority notes that C&W's submission, if verified and accepted, would have the effect of reducing the rate increases determined by the updated imputation test. In balancing the need for corrective action as soon as possible and the possibility that the price floor may be reduced in future mobile imputation tests, the Authority requires C&W to immediately effect an increase to its postpaid mobile service rates, of 60 percent of the difference.*

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*The minimum rate increases to C&W's postpaid mobile plans are identified in the table below:*

<b>C&amp;W Postpaid Plan</b>	<b>Current Monthly Rate</b>	<b>Imputation Test Failure*</b>	<b>Minimum Mandated Increase (60%)*</b>	<b>New Monthly Rate</b>
<b>b350</b>	<b>\$43</b>	\$17	\$10	<b>\$53</b>
<b>b500</b>	<b>\$66</b>	\$27	\$16	<b>\$82</b>
<b>b750</b>	<b>\$66</b>	\$38	\$23	<b>\$89</b>
<b>b1150</b>	<b>\$79</b>	\$24	\$14	<b>\$93</b>
<b>bBiz2200</b>	<b>\$129</b>	\$15	\$9	<b>\$138</b>
<b>bBiz3750</b>	<b>\$189</b>	\$86	\$52	<b>\$241</b>
<b>bBiz7500</b>	<b>\$359</b>	\$176	\$106	<b>\$465</b>
<b>bBiz20000</b>	<b>\$599</b>	\$558	\$335	<b>\$934</b>

\* Rounded to nearest dollar

*The Authority finds that C&W has not provided clear and timely information to its postpaid mobile subscribers regarding the migration program, subscribers' actual utilization of their plan minutes and their options to move to a smaller plan or possibly, to another service provider. The Authority directs C&W to provide the above information to its postpaid mobile subscribers on a timely basis. The Authority will monitor and evaluate C&W's actions in this regard, and if the company's actions are deemed insufficient, the Authority may issue appropriate directives and/or make changes to the regulatory regime to address these issues in the future.*

## Background

1. This decision addresses imputation test results and is supplemental to ICT Decision 2004-4 ("Decision 2004-4"). Decision 2004-4 was a decision made by the Information and Communications Technology Authority ("ICTA" or "the Authority") as a result of an application for reconsideration by Digicel (Cayman Islands) ("Digicel") of ICTA Decision 2004-1 ("Decision 2004-1") and ICT Decision 2004-2 ("Decision 2004-2"), insofar as the latter decision was based on the former decision, pursuant to sections 55A(1) and 52(2) of the Information and Communications Technology Authority Law, 2002 as amended ("the ICTA Law"). This decision should be read in conjunction with Decision 2004-4.
2. Since issuing Decision 2004-1, the Authority sought and obtained from Cable & Wireless (Cayman Islands) ("C&W") information on actual plan *utilization* for C&W's postpaid mobile calling plans for the months of March and April 2004. C&W also provided, as directed in Decision 2004-1, additional cost information. In its filing,

## REDACTED VERSION

C&W corrected some of the cost information that it had previously filed during the proceeding leading to Decision 2004-1. As noted in paragraph 108 of Decision 2004-1, the Authority stated that it may use such additional information to review the mobile services imputation test, pending a determination on the final mobile termination rate.

3. During the proceeding leading to Decision 2004-4, both Digicel and Wireless Ventures (Cayman Islands) (“Wireless Ventures”) identified potential shortcomings to the imputation analysis presented in Decision 2004-1. These shortcomings included the methodology and the assumed plan *utilization* levels, particularly as they are applied to C&W’s postpaid mobile business (bBiz) plans, and the omission of certain plan costs, particularly the potential handset subsidy. Digicel and Wireless Ventures argued that, if such shortcomings were accounted for, they would significantly alter the imputation test results. In Decision 2004-4, the Authority agreed that Digicel’s application had merit and stated it would issue the results of a new mobile services imputation test, as quickly as possible following receipt of further information from C&W.

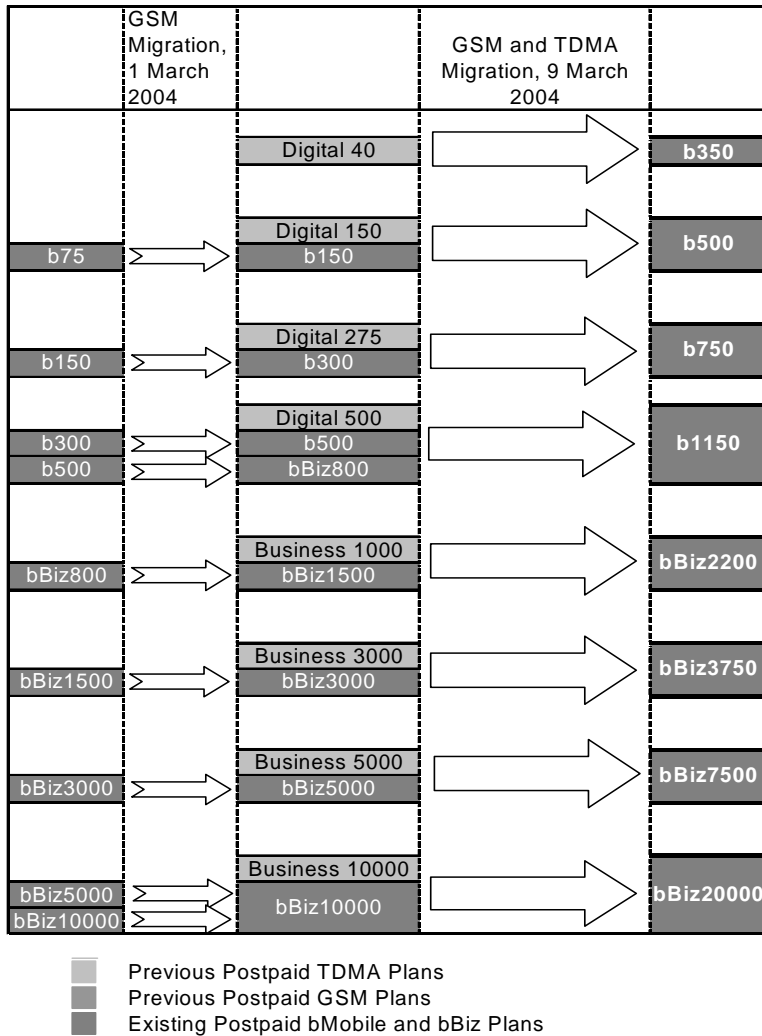
### **Plan Utilization**

#### *C&W Plan Data*

#### Critique of March-April 2004 Data

4. As discussed in detail in Decision 2004-1, on 9 March 2004, C&W migrated customers from the company’s pre-existing postpaid plans to its existing postpaid plans. This is summarised in Table 1 below:

Table 1



- On 11 May 2004, C&W provided the Authority with monthly information for March and April 2004 on plan utilization for each postpaid mobile plan. This information indicates that subscribers are continuing to use an extremely low percentage of their included on-net minutes. However, the Authority notes that many of the company's existing subscribers are currently assigned to plans that include on-net minutes far in excess of what they originally selected when they initiated their contract. At the lower end, for example, a customer who selected the now-terminated b75 plan in February 2004 was migrated to the b150 plan on 1 March 2004 and, after nine days, was again migrated to the b500 plan.
- Further, subsequent to the introduction of the new mobile rate plans and the issuance of Decision 2004-1, it appears that many of C&W's postpaid customers were not informed of how they were migrated and the fact that they could downgrade or, in certain cases, terminate their plans without cost. Although C&W, at the request of the Authority, posted a notice on the company's website regarding the migration program, there was no direct link from C&W's home page and the information was several levels down

## REDACTED VERSION

from the home page, thereby making it difficult for postpaid customers to find the information to help them to understand the options available to them. The Authority notes that, to date, C&W has failed to provide any direct notification to customers explaining the migration program and the alternatives available to customers should they wish to change from the plan to which they were migrated.

7. Finally, since the issuance of Decision 2004-4, during the course of responding to various customer queries and complaints, the Authority became aware that C&W does not provide, on the bills of its GSM postpaid mobile customers, information on the number of plan minutes that they use each month. C&W states that this is due to a limitation in the billing software and expects that the issue will be resolved by August 2004. This causes confusion for the consumer. The significance of this is that GSM postpaid customers do not have information that is essential to allow them to make appropriate decisions as to the plan best suited to their needs.
8. For the above reasons, the Authority believes that postpaid mobile subscribers have likely not adjusted their usage patterns, or migrated to lower, more appropriate plans offered by either C&W or another service provider. The Authority is of the opinion that the March and April 2004 data reflect unusually low utilization levels and do not reflect the levels of utilization that would normally be found in an equilibrium state. Further, these unusually low utilization rates give rise to very low costs and, therefore, price floors that are significantly lower than otherwise. For the above reasons, the March and April 2004 data are not used in the updated imputation test results.
9. In the Authority's view, the above also highlights a clear and urgent need for greater customer transparency. This issue is addressed in greater detail in the section "Authority's Determinations" below.

### Critique of February 2004 Data

10. The imputation test results presented in Decision 2004-1 were based on data from February 2004, the month preceding the implementation of the company's migration program. The method used in Decision 2004-1 to estimate utilization levels identified pre-existing plans that were the most similar to C&W's existing plans, and employed the utilization levels of these most similar pre-existing plans as proxies for the utilization of the existing plans.
11. In Decision 2004-1 the Authority relied on the information provided by C&W for estimating plan utilization, largely because of the lack of any other information on the record upon which to base reasonable estimates for the newly restructured postpaid plans. However, as noted by the Authority to the company subsequent to the issuance of Decision 2004-1, the information provided by C&W was only for the single, shortest month of the year, February 2004, which was also the month immediately preceding mobile services competition. As previously noted in Decision 2004-1, a more robust method would consider more data in order to smooth out any anomalies.

## REDACTED VERSION

12. As noted by the Authority in Decision 2004-1, the Authority adjusted C&W's plan utilization forecasts, based on more reasonable assumptions, and eliminated or reduced to the greatest extent possible, the arbitrary unitization found in the company's methodology. Nevertheless, the Authority's method for estimating utilization, while consistent across all the plans, resulted in an anomaly for bBiz20000. The closest pre-existing plans for the bBiz20000 plan were the 10000-minute plans (Business 10000 and bBiz10000). As discussed in the section "Plan Utilization", the Authority now considers that it may be more appropriate to use a different method for estimating the plan utilization level for the bBiz20000 plan.
13. Third, the Authority's method only considered C&W's pre-existing mobile plans with fewer minutes than the company's existing plans and did not take into account pre-existing plans with greater minutes, regardless of whether the pre-existing plan was closer to the existing plan, in terms of the number of plan minutes. In most cases, this did not significantly affect the outcome. However, this method appears to result in an anomaly in the estimated utilization level of the b750 plan. The Authority now considers that it may be more appropriate to use the b800 plan as a proxy for the b750 plan, as discussed in the section "Authority's Findings."

### *Digicel's Proposed Methodologies*

14. Digicel's primary criticism of Decision 2004-1 pertains to the imputation test assumptions for on-net utilization. Digicel's critique does not address the Authority's method or assumptions for estimating off-net minutes or the number of additional Family Circle handsets for an average subscriber for each plan.
15. Digicel's arguments with respect to on-net utilization were presented in Decision 2004-4. Digicel's primary criticism with respect to utilization rates is that the methodology used in Decision 2004-1 does not accord with consumer rationality. Accordingly, Digicel submitted that the imputation tests were improperly applied and should be corrected.
16. Digicel offers two alternative methods of estimating on-net plan utilization. Its preferred method ("Digicel Method 1") identifies the quantity of on-net minutes where a consumer is better off moving from one plan to another plan (with fewer or more included on-net minutes). Hence, Digicel Method 1 identifies a range of minutes that a rational subscriber would demand under each plan; when the subscriber's demand reaches the upper or lower bound of that range, if he is rational, Digicel contends he will necessarily switch to the next higher or lower plan.
17. Digicel's second proposed method ("Digicel Method 2") is based on the same rationality principle as Digicel Method 1. Digicel Method 2 assumes that an average subscriber will consume, at least, the maximum included on-net minutes provided in the next lower plan. Hence, Digicel Method 2 identifies the minimum number of minutes a rational subscriber will demand under each plan; when the subscriber's demand falls below that minimum, if he is rational, Digicel contends he will necessarily switch to the next lower plan.

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Critique of Digicel Method 1

18. Digicel states that if one believes that consumer choice is rational then the following simple requirement must be satisfied in estimating a subscriber’s on-net utilization:

*“If  $D_{min_x} < Min_i$  (where  $D_{min_x}$  is the number of on net minutes demanded by subscriber  $x$  and  $Min_i$  is the number of free minutes offered on plan  $i$ ) then consumers will always chose plan  $i$  over plan  $j$  where  $Min_i < Min_j$  and  $P_i < P_j$  ( $P=Price$ ).*

Meeting this requirement forms the very foundation of rational behaviour. An example of how this works in practice can simply be explained as follows - suppose a subscriber demands 2000 minutes ( $D_{min_x}$ ) on net calls per month. If this 2000 minutes is less than the number of free minutes being offered on the plan b2200 ( $Min_i$ ), it will always chose this plan over b3750 ( $Min_j$ ) if b2200 is cheaper than b3750 ( $P_i < P_j$ ).”

19. The Authority agrees with Digicel that the method and assumptions of an imputation test should not conflict with principles of consumer rationality. However, a fundamental inadequacy of Digicel Method 1 is that it offers an overly narrow and incomplete means of capturing rational behaviour. This inadequacy is reflected in Digicel’s contention that “the rule holds at all times” over the life of the contract; in other words, the rule fails to acknowledge or allow for variation in demand patterns over the life of a subscriber’s contract. Hence, even if one assumes a perfectly informed subscriber, which Digicel implicitly concedes is a strong assumption, the rationality requirement provides a biased result that overstates on-net plan utilization of a rational consumer.
20. For example, consider a subscriber that consumes, on average, 2000 on-net minutes per month over the life of his contract. Assume also that the subscriber’s demand pattern fluctuates over time; that is, assume the subscriber uses 3100 minutes per month for half of the 12-month contract period and 900 minutes per month for the remaining months of the contract. The following Table 2 demonstrates why a rational perfectly informed subscriber, may choose the bBiz3750 plan at \$189/month over the bBiz2200 plan at \$129/month: such a subscriber would incur an annual cost of \$2,466 under the bBiz2200 plan, but only \$2,269 under the bBiz3750 plan.

Table 2

bBiz2200					bBiz3750				
	6 months	6 months	Price/Month	Revenue		6 months	6 months	Price/Month	Revenue
On-net included minutes	900	2200	\$129	\$1,548	On-net included minutes	900	3100	\$189	\$2,268
Addl on-net minutes (\$0.17/min)	0	900	\$153	\$918	Addl on-net minutes (\$0.17/min)	0	0	\$0	\$0
				<b>\$2,466</b>					<b>\$2,268</b>

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21. Secondly, Digicel Method 1 also implicitly assumes a risk-neutral subscriber with perfect foresight. Consumer uncertainty and risk aversion are relevant and important factors in estimating consumer demand. Moreover, such factors may be more pronounced for subscribers with multiple users. In such cases, there is a principal-agent effect, whereby the subscriber/employer (or “principal”) has less direct or precise control over the mobile usage of his users/employees (or “agents”). Likewise, subscribers may anticipate but not know with certainty the number of users he will add to the plan over the contract period. For instance, a business subscriber, anticipating his business to grow, may sign up for a plan that includes on-net minutes well above his existing demand, but expect to use the excess minutes over time as he adds users/employees to his plan.
22. Thirdly, the evidence of actual plan utilization, albeit limited, does not appear to support Digicel Method 1, which results in an average rational subscriber utilising 100 percent or more of his included on-net minutes. The C&W data on plan utilization in February 2004 show that a high percentage of subscribers use fewer than their plan minutes. The subscriber usage figures for the company’s TDMA and GSM plans, based on February 2004 data indicate across the board under-consumption of plan minutes, particularly for the larger plans. The table from paragraph 64 in Decision 2004-1 is replicated below as Table 3:

Table 3

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**Pre-migration average plan utilization, February 2004**

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23. C&W provided to the Authority, in confidence, a copy of a Yankee Group Survey that was referenced in its 28 May 2004 filing re: Supplementary Mobile Handset Information. In its 2002 survey, the Yankee Group found that approximately #\_\_# percent of customers surveyed with calling plans that had #\_\_\_\_\_# included minutes, knowingly consumed, on average, fewer than their included plan minutes in any given month. In its 2003 survey, the Yankee Group found that #\_\_# percent of consumer to calling plans with #\_\_\_\_\_# minutes knowingly consume, on average, less than their included plan minutes.



## REDACTED VERSION

24. Finally, in a report published in December 2002, the UK Competition Commission concluded, based on its review of usage information submitted in confidence by T-Mobile, Orange, and Vodafone, that subscriber under-utilization of included plan minutes “is substantial” and that the percentage of under-utilization is higher for business plans than it is for residential plans.<sup>1</sup>

### Critique of Digicel Method 2

25. Digicel Method 2 is based on the same rationality rules as Digicel Method 1, but with one important exception:

“To allow for margins of error where consumers cannot gauge its [sic] demand perfectly one could argue that a more lax approach in carrying out imputation tests could be to assume that the actual level of on net minutes demanded on each plan equals the number of free minutes offered on the previous plan i.e. a customer on b2200 consumes only 1150 minutes, a customer on b3750 only consumes 2200 minutes, a customer on b7500 only consumes 3750 minutes, a customer on b20000 only consumes 7500 minutes.”

26. The fundamental shortcoming with Digicel Method 2 is that there is no sound theoretical or empirical rationale as to whether the rule is an appropriate proxy for consumer demand. The method is based on the same rationality rule as Digicel Method 1, which is addressed in the previous section. Digicel Method 2 does, however, succeed in an important respect in that it provides an intuitive, common sense framework that consumers who purchase a given plan, on average, will utilise at least the maximum number of minutes of the next smaller plan. The question is whether common sense alone is a sufficient justification for selecting a utilization methodology.
27. Based on February 2004 data, the utilization levels from C&W’s pre-existing postpaid plans do not appear to support the results from the Digicel Method 2. It is possible that Digicel Method 2 results in a potential upward bias similar to, but of a smaller magnitude than, that found in Digicel Method 1, as shown in Table 4 below:

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<sup>1</sup> UK Competition Commission, *Vodafone, O2, Orange and T-Mobile - Reports on references under Section 13 of the Telecommunications Act 1984 on the charges made by Vodafone, O2, Orange and T-Mobile for terminating calls from fixed and mobile networks*, December 2002, Volume 2, ¶ 6.135.

Table 4

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28. To the extent that the estimates of on-net plan utilization employed in Decision 2004-1 produce results that Digicel considers anomalous is not, in the Authority's view, a sufficient basis to conclude that the method used in Decision 2004-1 violates consumer rationality.
29. For the above reasons, the Authority has not, in this decision, used Digicel's Method 2 for estimating on-net usage for the imputation tests. The Authority prefers, where possible, to rely on forecasts or estimates of plan utilization that are based on actual data. A fact observed in the Yankee Group survey results, the UK Competition Commission report, and C&W data, and which cannot be ignored, is that mobile subscribers, on average, appear to consistently consume fewer than their allotted minutes. The Authority considers the approach used in Decision 2004-1, for the most part, a better method for estimating plan utilization, as it is more easily verified and is likely to be more reflective of consumer behaviour in the Cayman Islands.

### **Other Matters**

30. On 9 June 2004, the Authority received a submission from C&W ("C&W correspondence") stating that certain cost estimates were overstated and certain revenue sources were excluded from the mobile imputation test results presented in Decision 2004-1.
31. Quite apart from the substance of C&W's comments, the Authority has misgivings with the C&W correspondence for a number of reasons.
32. The information provided is outside the guidelines issued by the Authority for submissions pertaining to the imputation test reconsideration. C&W was notified, as were all parties, in writing, and verbally briefed, on the procedures to be followed in connection with Digicel's request for reconsideration of Decisions 2004-1 and 2004-2. In setting out its full procedures for the process leading to Decision 2004-4, the

## REDACTED VERSION

Authority was mindful of the natural justice rights of all parties to make their submissions and to have the opportunity to submit all relevant evidence and arguments in a timely fashion. To request that the Authority entertain this new submission by C&W, not copied to other interested parties, on the eve of the issuance of this decision, disregards the natural justice rights of the other interested parties to review the information and to submit their comments as to its validity.

33. The Authority is most concerned that C&W should seek to introduce at this very late stage, and after the close of the record, new evidence with respect to the costs and revenues attributable to its mobile plans. C&W is well aware that a proper scrutiny of the new submission will likely require interrogatories by the Authority and comments by interested parties, thereby compromising the timely issuance of a decision.
34. C&W has compromised, and continues to compromise, the imputation test process contemplated in its Licence to the detriment of competitors and consumers. The Authority has had to repeatedly advise C&W, both informally and in Decisions 2004-1, 2004-2 and 2004-4 of its concerns about the poor quality of the data supplied by C&W to the Authority, the delays in providing data, the lack of rationale behind the assumptions and estimates submitted and the number of errors in the data submitted. Additionally, C&W is well aware of the need to quickly address any rates that fail the imputation test and, therefore, are below cost. In the Authority's view, C&W's repeated failures cause actual harm to other licensees and create uncertainty for consumers.
35. The public interest requires an imputation test process predicated on timely, accurate and properly substantiated information. The Authority stated in Decision 2004-1 and repeated at paragraph 106 of Decision 2004-4 that it is unreasonable for C&W to be the beneficiary of its failure to include proper costs to the detriment of the imputation test analysis and competitors in the marketplace. The Authority is equally concerned that that C&W should similarly not be the beneficiary of its failure to include information which could have been provided much earlier, and within the time frames established by the Authority, so as to not delay issuance of a timely determination.

### **Authority's Findings**

36. The Authority has considered the additional plan usage information and Digicel's proposed methodologies. The Authority finds that, at this time, it is more reasonable to rely on subscribers' actual plan utilization rather than a more theoretical rule as proposed by Digicel, for imputation test purposes. As a result, the methodology applied in the updated imputation test is similar to that applied in Decision 2004-1, with some modifications.
37. There are three changes to the mobile services imputation test, as follows:
  - a. additional cost information, including corrections to some of C&W's earlier costs used in the imputation test in Decision 2004-1, was filed by C&W on 14 May

## REDACTED VERSION

2004. These corrections account for the greatest impact upon the current imputation test analysis.

- b. an adjustment to the method of estimating included on-net utilization for the bBiz20000 plan by the Authority. The Authority's adjustment reflects the fact that the previous method did not properly account for the substantial (100 percent) difference between the number of included on-net minutes in the bBiz20000 plan, and the Business 10000 and bBiz10000 plans.
- c. an adjustment to the method of estimating included on-net minutes for the b750 plan by the Authority. The Authority's adjustment reflects the fact that the previous method did not account for a pre-existing plan that is a better proxy for the b750 plan.

### *Adjustments to Plan Costs*

#### Enhanced Features

- 38. Regarding enhanced features' costs, on 14 May 2004 C&W filed information with the Authority stating that the functionality provided for enhanced features such as call waiting, caller ID, call forwarding and three-way calling is embedded within the switch. C&W stated that the mobile module of its fully allocated cost ("FAC") model does not provide a breakdown of these costs and there was no breakdown at the time its TDMA switch was purchased. However, C&W provided a proxy of the incremental cost of providing enhanced services based on the cost of the software for its GSM switch. C&W stated that the usage driven hardware element would be negligible.
- 39. The company clarified in correspondence to the Authority, that the cost of providing enhanced services is applicable to each handset user per month, and not merely to each plan subscriber per month. C&W added that, because the cost associated with enhanced features is already embedded in the aggregate value of the switch in the mobile FAC model, any allocation to enhanced services would have to be accompanied by a corresponding reduction in switch costs attributed to conveyance or call set-up.
- 40. Using the above-referenced estimates provided by C&W, the Authority includes the cost of service provision for enhanced features per end-user, per month in the updated imputation test. As previously stated in Decision 2004-1, the costs of C&W's GSM network, which includes the service provision costs for enhanced features, are not fully reflected in the FAC model. For this reason, the Authority has not applied any corresponding reduction in switch costs. To the extent that any adjustment should be made to the TDMA switch costs for conveyance and call set-up, it is expected at this time that any such adjustment would likely be minor, and may be somewhat mitigated by the fact that no additional amount was included for the cost of accessing the enhanced features on the GSM switch located in Montego Bay, Jamaica.

## REDACTED VERSION

### Maintenance and Additional Support

41. Regarding the maintenance and additional support cost, per additional handset, C&W stated, in its 14 May 2004 filing, that the support costs for additional handset sales are almost exclusively related to sales and support staff time. C&W provided to the Authority in confidence a fully loaded labour rate for its customer support staff, the average contract life for a handset, and the time estimated by C&W's sales representatives to support an additional handset.
42. The Authority has doubts about the accuracy of the time estimate provided by the company to support an additional handset. Not only was the time estimate provided very short, but in contrast to the other information which was based on specific data and/or supported by external studies, the time estimate was solely based on an estimate provided by the company's sales representatives. No studies were conducted or other information provided confirming that the time estimate was realistic and reasonable. In the Authority's opinion, #\_\_# minutes to maintain and support an additional handset is more reasonable. As a result, the Authority has used a more reasonable time estimate to maintain and support an additional handset instead of C&W's time estimate in the updated imputation test.

### TDMA-GSM Migration

43. Regarding the plan migration costs, C&W stated in its 14 May 2004 filing that the cost incurred to implement the 9 March 2004 migration was negligible. However, the company stated that it had not estimated the time taken to respond to customer queries and complaints that occurred as a result of the company's migration program. C&W stated that migration costs were, as a rule, exclusively labour-related. The company provided, in confidence to the Authority, the estimated cost of migrating a customer from one plan to another plan of the same technology, and of migrating a customer from one technology (e.g., TDMA) to another technology (e.g., GSM).
44. C&W did not notify the majority of its customers until late May/early June 2004 that customers had the option of downgrading or terminating their postpaid mobile plans without cost. Primarily for this reason, the Authority considers it unlikely that significant numbers of customers have migrated between plans on the same technology since 9 March 2004.
45. However, as a result of several recent promotions offered by C&W, it appears that postpaid mobile customers have been migrating more quickly from TDMA to GSM since 9 March 2004. As a result, the Authority considers it appropriate to include the cost of migrating from TDMA to GSM, amortised over the average lifespan of a customer on a plan.
46. With respect to the estimates provided by the company, the Authority has doubts about the time estimate provided by the company to migrate a customer from one technology to another. Not only was the time estimate short, in contrast to the other information that was based on specific data and/or supported by external studies, the time estimate

## REDACTED VERSION

provided by C&W was based solely on a survey of its sales staff. No time studies were conducted or other information provided which would indicate that the time estimate is realistic and reasonable. In the Authority's opinion, #\_\_# minutes per subscriber, on average, to migrate from TDMA to GSM is more reasonable. As a result, the Authority has used a more reasonable migration time estimate instead of C&W's migration time estimate in the updated imputation test.

### Origination, Conveyance and Termination

47. With respect to the costs of origination, conveyance and termination, C&W stated, in its 14 May 2004 filing, that an error had been made in the original information provided by the company. The effect of this error was to underreport network operating expenses. The company stated that network operating expenses, expressed as a percentage of network capital costs, were too low and that this percentage had been applied to too many network elements. The company revised the network operating expenses, and filed corrected data in confidence with the Authority. The company's correction resulted in higher network operating expense. The Authority relies on C&W's corrected cost estimates in the updated imputation test.
48. For reasons given in Decisions 2004-1 and 2004-4, the Authority has not, at this time, revised the method for estimating the GSM costs, which applies a 25 percent uplift factor. However, the Authority has made a minor adjustment, in this decision, to the network costs to which the 25 percent factor applies, in order to be consistent with the manner in which the company developed its network cost estimates. The 25 percent GSM factor was applied to the mobile termination rate less digital trunk channels interconnect costs to avoid double-counting, as these costs were already included in C&W's estimate of mobile termination on third party's networks.

### *Adjustment to On-net Utilization for bBiz20000*

49. The method of estimating included on-net utilization in Decision 2004-1 is contingent upon the pre-existing plans being sufficiently comparable to the existing bMobile and bBiz postpaid plans, in order to identify proxy utilization levels. It is questionable whether this method is appropriate for the bBiz20000 plan because there is a 10,000-minute (100 percent) difference between the most comparable pre-existing plan and the bBiz20000 plan. Hence, the application of the method in Decision 2004-1 to the bBiz20000 plan with no adjustment has likely resulted in an abnormally low utilization level.
50. To address this problem, the method adopted in this decision for estimating included on-net utilization for bBiz20000 applies the *percentage* utilization of Business 10000 and bBiz10000 to the total number of included on-net minutes for bBiz20000. This modification results in an estimated percentage utilization for the bBiz20000 equal to the percentage utilization for the pre-existing, most comparable TDMA and GSM plans. The effect of this modification is to approximately double the level of included on-net utilization from that estimated in Decision 2004-1.

**REDACTED VERSION**

*Adjustment to On-net Utilization for b750*

51. The method used in Decision 2004-1 was a conservative approach in that it considered only pre-existing plans with fewer minutes than the existing plan. The rationale for this assumption was to provide a simple method that accounted, in some part, for a degree of uncertainty inherent in estimating utilization for complex services such as the postpaid mobile plans. The Authority believes that this method continues to be the most appropriate for the majority of the postpaid plans evaluated in Decision 2004-1.
52. However, the above method does not appear to be appropriate for estimating included on-net utilization for the b750 plan. To rectify this shortcoming, the revised method of estimating included on-net utilization for the b750 plan considers the pre-existing plan that offered both fewer and greater included on-net minutes. In so doing, utilization for the b750 plan is now proxied by the b800 GSM plan, instead of the b500 GSM plan. The effect of this change is to increase the estimated utilization of the plan by approximately six percentage points, which reflects the relatively higher utilization of C&W's pre-existing b800 subscribers.

**Authority's Determinations**

*Updated Imputation Test Results*

53. The Authority finds that all of C&W's eight postpaid plans fail the updated interim imputation test. Attachment 1 presents the Authority's imputation test results for each postpaid plan at issue in this decision. The results are summarised in the following Table 5. Below the Authority discusses its determination of the minimum mandated increase to C&W's postpaid mobile plans.

Table 5

<b>C&amp;W Postpaid Plan</b>	<b>Current Monthly Rate</b>	<b>Imputation Test Failure*</b>	<b>Minimum Mandated Increase (60%)*</b>	<b>New Monthly Rate</b>
<b>b350</b>	<b>\$43</b>	\$17	\$10	<b>\$53</b>
<b>b500</b>	<b>\$66</b>	\$27	\$16	<b>\$82</b>
<b>b750</b>	<b>\$66</b>	\$38	\$23	<b>\$89</b>
<b>b1150</b>	<b>\$79</b>	\$24	\$14	<b>\$93</b>
<b>bBiz2200</b>	<b>\$129</b>	\$15	\$9	<b>\$138</b>
<b>bBiz3750</b>	<b>\$189</b>	\$86	\$52	<b>\$241</b>
<b>bBiz7500</b>	<b>\$359</b>	\$176	\$106	<b>\$465</b>
<b>bBiz20000</b>	<b>\$599</b>	\$558	\$335	<b>\$934</b>

\* Rounded to nearest dollar

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54. Regarding the substance of C&W's correspondence dated 9 June 2004, the Authority notes that the company has introduced a myriad of new information with little and, in many cases, no supporting documentation, analysis, or coherent justification. Nonetheless, given the importance of these proceedings on mobile rates, the Authority recognizes that it should not refuse outright to consider the latest submission by C&W.
55. C&W's correspondence will be properly reviewed and assessed in due course. The Authority notes that C&W's correspondence, if verified and accepted, would have the effect of reducing the rate increases determined by the imputation test, assuming no other changes are made. The Authority is also cognizant that its determination in the mobile termination proceedings will have an impact upon the imputation test analysis, which may result in further adjustments. In determining how best to take into account C&W's correspondence, paramount to the Authority is the public interest and the impact of its decisions upon the marketplace and consumers.
56. The Authority is concerned that competitors not be impacted unfairly by inappropriate rates and, at the same time, that consumers not be subject to unnecessary changes in rates, as a direct result of the Authority's decisions. Accordingly, the Authority determines that C&W's rates shall be increased by 60 percent of the amounts stated in Table 5. In arriving at its determination the Authority believes that the information it has obtained and reviewed on C&W's revenues and costs to-date make the percentage both reasonable and proper.
57. In addition to the requirement to review and assess C&W's correspondence, once the Authority issues its determination on a final mobile termination rate, as noted in Decisions 2004-1 and 2004-4, it may be necessary to review the mobile imputation test. The Authority also notes that the monthly monitoring information that C&W will continue to file on the utilization of the postpaid mobile plans may also be used by the Authority in any review of the imputation test.

### *Customer Transparency*

58. On 5 March 2004, C&W announced a series of complex changes to its postpaid mobile plans that involved changes to the structure of the plans and mobile rates. These new calling plans came into effect on 9 March 2004. C&W advertised the new plans and new prices in the local media from 5 March 2004 for a relatively short period of time. However, C&W was silent with respect to how the migration program affected its existing subscribers or what choices subscribers have under the C&W migration program in order for them to assess whether they are getting the best value for their dollar.
59. In addition, the company has not provided its GSM postpaid subscribers with clear and detailed information on their actual monthly usage of included on-net minutes. Hence, even those GSM postpaid subscribers who might be aware of the effect of the migration program and their choices for moving to a different plan, would be unable to determine whether the calling plans they are assigned to are the most economic ones given their actual monthly calling patterns.



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60. In response to queries from the Authority, C&W identified some technical issues with its GSM billing software such that the company is unable to identify the number of plan minutes used by each GSM postpaid mobile customer on his monthly bill. C&W stated that it plans to introduce changes that will allow reporting of the number of plan minutes used on the monthly bills of GSM postpaid mobile customers, by August 2004. In the meantime, C&W stated that it is investigating other means of providing the number of plan minutes used each month to its GSM postpaid customers.
61. Since the issuance of Decision 2004-1, the Authority has received several queries and complaints from C&W indicating that, intentionally or not, the company has failed to provide information on the migration program and all the information necessary for its subscribers to make reasoned choices on a timely basis.
62. The Authority believes it is important that customers are provided with information regarding changes to the terms of their calling plans and a clear understanding of the various options as their disposal, should they wish to change plans or providers in order to obtain better value for their dollar. Clear and accurate consumer information is particularly important in an environment of emerging competition, where service providers are expected to compete vigorously for customers. In order for customer choice to be effective, at a minimum, customers should be provided with clear, detailed and accurate information on a timely basis on changes to the terms and conditions of their services and impact of these changes on their monthly spend and utilization.
63. As set out in the section “Directives to C&W”, C&W is required to immediately take the steps necessary to fully inform its GSM postpaid customers of their monthly utilization levels and to demonstrate to the Authority that it has informed all of its postpaid plan customers of C&W’s migration program.
64. The Authority views customer transparency as an issue of paramount importance and will monitor and evaluate C&W’s actions in this regard. If the company’s actions are deemed insufficient, the Authority will not hesitate, if required, to issue appropriate directives, make changes to the regulatory regime to address these issues in the future and/or use any other appropriate measures available to the Authority.

### **Directives to C&W**

65. As a result of the Authority’s findings and determinations, C&W is directed to:
  - a. immediately cease offering its mobile postpaid plans to customers as of the date of this decision, unless its rates comply with the new minimum monthly rates in Table 5;
  - b. immediately take all necessary steps to notify its customers that the company is required to cease offering the mobile plans and services at rates that do not comply with the new minimum monthly rates in Table 5;

## REDACTED VERSION

- c. immediately take all necessary steps to publish, within five business days of the date of this decision, advertisements in the local press and on the company's website setting out the changes to postpaid mobile plan rates as a result of this decision, in order to promote greater customer transparency;
- d. within five business days of the date of this decision, file with the Authority revised tariff pages reflecting the new rates, and a copy of the draft letter to customers for review and prior approval;
- e. immediately take the steps necessary to fully inform its GSM postpaid customers of their monthly utilization levels in a meaningful and timely fashion. C&W is to keep the Authority apprised of its efforts to resolve its technical difficulties within the time stated by C&W for such difficulties to be resolved; and
- f. demonstrate to the Authority that it has informed its postpaid plan customers clearly and on a timely basis of the individual impacts of C&W's migration program, their individual monthly usage and the various options that customers have so they can assess that they are obtaining the best value for their dollar.

**Authority's Imputation Test Results of 21 June 2004**

<b>b350</b>	<b>Unit Revenue</b>	<b>Monthly Usage</b>	<b>Monthly Revenue</b>	<b>Unit Cost</b>	<b>Monthly Usage</b>	<b>Monthly Cost</b>	<b>Difference (Rev-Cost)</b>
Monthly Rate Handsets			\$43.00				\$43.00
Additional Handsets Customer Acquisition On-net	\$10.00						
On-net Additional	\$0.17						
Off-net	\$0.25						
V-Mail							
SMS Enhanced							
<b>Total</b>							<b>(\$16.26)</b>

<b>b500</b>	<b>Unit Revenue</b>	<b>Monthly Usage</b>	<b>Monthly Revenue</b>	<b>Unit Cost</b>	<b>Monthly Usage</b>	<b>Monthly Cost</b>	<b>Difference (Rev-Cost)</b>
Monthly Rate Handsets			\$66.00				\$66.00
Additional Handsets Customer Acquisition On-net	\$10.00						
On-net Additional	\$0.17						
Off-net	\$0.25						
V-Mail							
SMS Enhanced							
<b>Total</b>							<b>(\$26.21)</b>

<b>b750</b>	<b>Unit Revenue</b>	<b>Monthly Usage</b>	<b>Monthly Revenue</b>	<b>Unit Cost</b>	<b>Monthly Usage</b>	<b>Monthly Cost</b>	<b>Difference (Rev-Cost)</b>
Monthly Rate Handsets			\$66.00				\$66.00
Additional Handsets Customer Acquisition On-net	\$10.00						
On-net Additional	\$0.17						
Off-net	\$0.25						
V-Mail							
SMS Enhanced							
<b>Total</b>							<b>(\$37.10)</b>

<b>b1150</b>	<b>Unit Revenue</b>	<b>Monthly Usage</b>	<b>Monthly Revenue</b>	<b>Unit Cost</b>	<b>Monthly Usage</b>	<b>Monthly Cost</b>	<b>Difference (Rev-Cost)</b>
Monthly Rate Handsets			\$79.00				\$79.00
Additional Handsets Customer Acquisition On-net	\$8.00						
On-net Additional	\$0.17						
Off-net	\$0.25						
V-Mail							
SMS Enhanced							
<b>Total</b>							<b>(\$23.13)</b>

Authority's Imputation Test Results of 21 June 2004

bBiz2200	Unit Revenue	Monthly Usage	Monthly Revenue	Unit Cost	Monthly Usage	Monthly Cost	Difference (Rev-Cost)
Monthly Rate Handsets			\$129.00				\$129.00
Additional Handsets Customer Acquisition On-net	\$8.00						
On-net Additional Off-net	\$0.17 \$0.25						
V-Mail							
SMS Enhanced							
<b>Total</b>							<b>(\$14.01)</b>

bBiz3750	Unit Revenue	Monthly Usage	Monthly Revenue	Unit Cost	Monthly Usage	Monthly Cost	Difference (Rev-Cost)
Monthly Rate Handsets			\$189.00				\$189.00
Additional Handsets Customer Acquisition On-net	\$5.00						
On-net Additional Off-net	\$0.17 \$0.25						
V-Mail							
SMS Enhanced							
<b>Total</b>							<b>(\$85.14)</b>

bBiz7500	Unit Revenue	Monthly Usage	Monthly Revenue	Unit Cost	Monthly Usage	Monthly Cost	Difference (Rev-Cost)
Monthly Rate Handsets			\$359.00				\$359.00
Additional Handsets Customer Acquisition On-net	\$5.00						
On-net Additional Off-net	\$0.17 \$0.25						
V-Mail							
SMS Enhanced							
<b>Total</b>							<b>(\$175.15)</b>

bBiz20000	Unit Revenue	Monthly Usage	Monthly Revenue	Unit Cost	Monthly Usage	Monthly Cost	Difference (Rev-Cost)
Monthly Rate Handsets			\$599.00				\$599.00
Additional Handsets Customer Acquisition On-net	\$5.00						
On-net Additional Off-net	\$0.17 \$0.25						
V-Mail							
SMS Enhanced							
<b>Total</b>							<b>(\$557.98)</b>

**Definitions**

- Monthly Rate: The recurring monthly flat fee for a given mobile calling plan.
- Handsets: The number of per subscriber handsets to a given plan that were purchased from C&W.
- Additional Handsets: The number of per subscriber additional handsets to a given plan (i.e., total handsets, less one).
- Customer Acquisition: Customer acquisition and maintenance cost, as identified in the adjusted FAC model.
- On-net: Mobile voice usage of minutes included in a given plan.
- On-net Additional: Mobile voice usage that exceed the number of minutes included in a given plan.
- Off-net: Mobile voice usage that originates on C&W's mobile network and terminates on a third-party's mobile network.
- V-Mail: Mobile voice mail usage associated with a given plan.
- SMS: Text message/short message service usage associated with a given plan.
- Enhanced: Custom calling features provided with a given plan, such as call forwarding, caller ID, call waiting, and 3-way calling.