

**UNIVERSITY OF CALIFORNIA, DAVIS
AUDIT AND MANAGEMENT ADVISORY SERVICES**

**Information and Educational Technology
Campus Telecommunications
Audit and Management Advisory Services Project #15-25**

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MANAGEMENT SUMMARY

Purpose, Scope, and Background

As part of the Audit and Management Advisory Services (AMAS) audit plan for fiscal year (FY) 2014-15, AMAS conducted a review of campus telecommunications.¹ The objective of our review was to assess the procedures for providing telecommunication services on campus and for monitoring utilization and expenses to ensure proper and efficient use of resources.

Because of the potential for identifying cost savings, we focused the review on cellular devices, i.e., smartphones, tablets, and aircards. Many of these devices incur recurring monthly charges for the wireless services provided by the four major carriers: AT&T, Verizon, T-Mobile, and Sprint. Departments may authorize and assign cellular devices to employees for conducting official University business, and may purchase the cellular devices and the monthly services on their own or through Communications Resources (CR) under Information & Educational Technology (IET).

CR, which manages only AT&T cellular service users, estimates that it currently manages approximately 90% of campus cellular business. Campus FY14 expenditures for cellular devices and services totaled approximately \$1.4 million.

Our review encompassed financial data from FY10-FY14, and was performed from February through May 2015. To complete our review, we analyzed accounting and invoice records; interviewed IET CR personnel; made inquiries of personnel in various campus departments; and reviewed supporting documentation.

Conclusion

CR has been aggressively pursuing cost saving opportunities for campus cellular users in its negotiations with AT&T on calling plan options. AT&T is now offering users a \$0-per-month, pay-by-the-minute plan at \$0.06/minute. Our analysis indicated that if all users switched to this plan, the campus could save over \$400,000 annually because cellular users do not currently use all minutes available under their monthly calling plan contracts. CR will be beginning an educational campaign to notify campus departments/users about the new AT&T plan.

Additionally, we noted that departmental controls surrounding cellular usage agreements, which employees are required to sign prior to receipt of cellular devices/services, could be improved, as most users within our sample had not completed an agreement. In accordance with Office of the President policy, usage agreements are controlled at the department level rather than centrally through CR; however, CR has agreed to assist in establishing a stronger control environment by updating its website to include a step in the purchasing process for departments to obtain a usage agreement. Finally, we noted that enhanced controls over cellular equipment procurement would result in cost savings to the University.

¹ The UC Davis Health System (UCDHS) was excluded from the scope of this review because AMAS conducted an audit of UCDHS telecommunications in FY13.

OBSERVATIONS, RECOMMENDATIONS, AND MANAGEMENT CORRECTIVE ACTIONS**A. Cellular Device Utilization**

In the aggregate across campus, significant opportunities for cost savings exist because cellular users do not use all minutes paid for under monthly calling plan contracts.

Authorization for cellular phone contract purchases resides at the departmental level; as such, Communications Resources (CR) has no ability to establish controls over phone contract selection. UCOP Policy BFB-G-46 (G-46), *Guidelines for Purchase and Use of Cellular Phones and other Portable Electronic Resources*, establishes that cellular phone contracts should be selected to reflect the level of expected business-related use. G-46 stipulates that departments should annually review and adjust service contracts to reflect the average business-related use and to maximize cost savings, and that employees who are consistently underutilizing a plan should be moved to a plan with fewer minutes.

To conduct our testing, we reviewed three months of FY15 invoices from the campus' largest vendor, AT&T, for services covering approximately 1,000 campus cellular users.² In the aggregate, the calling plans of the 1,000 employees included 532,000 minutes per month and cost \$43,000 (approximately \$0.08/minute on average). Of the 532,000 available minutes, approximately 26% (137,000) were actually used.

CR has indicated that, for the first time, AT&T is offering campus cellular users a \$0-per-month, pay-by-the-minute plan at \$0.06/minute (including AT&T mobile-to-mobile calling at no cost). If this plan had been available during the time of our review and all 1,000 employees included in our analysis had subscribed to it, the aggregate monthly cost of their calls would have been approximately \$8,000³. This represents a monthly savings of approximately \$35,000 and an annualized savings of approximately \$420,000.

As noted, CR manages campus cellular service for approximately 2,000 users and our analysis covered approximately 50% of those. If we assume that users who were not subject to our analysis also generally have between 0% - 75% of paid plan minutes that are not being consistently used, the potential total annual savings to the campus could range from \$420,000 to \$840,000.

Recommendation

CR should educate campus departments/users about the specifics of the new AT&T plan so that departments/users can evaluate if the new plan would represent a cost savings for them.

² CR manages cellular service for approximately 2,000 AT&T cellular users in total.

³ The \$8,000 monthly projection was calculated as approximately 137,000 minutes * \$0.06/minute. The \$8,000 figure would be further reduced by the number of minutes representing AT&T mobile-to-mobile calls for which there would be no charge. From the data we were able to obtain, we could not assess what percentage of campus calls are AT&T mobile-to-mobile calls.

Management Corrective Action

By October 15, 2015, CR will begin an educational campaign with campus departments/users to inform them about the specifics of the new AT&T plan so that departments/users can evaluate if the new plan would represent a cost savings for them.

B. Telecommunication Usage Agreements**Recordkeeping processes for cellular usage agreements could be improved.**

G-46 establishes that an employee who is to be provided electronic communications equipment or services must, prior to receipt of such resources, sign a usage agreement acknowledging that primary use of the resources will be for official University business and that any personal use of the resources will be incidental in nature. By signing the agreement, the employee also acknowledges that all records related to the purchase/use of the equipment and service are the property of the University and potentially subject to disclosure under the California Public Records Act.

G-46 Appendix A includes an agreement to be used for this purpose; the agreement is addressed to the department head and must be signed by the employee. To test compliance with G-46, we selected a sample of 30 cellular users across the campus and contacted their departments to request a copy of the signed agreement. Among these 30, one provided us with an executed agreement, indicating that control processes surrounding these agreements need improvement.

Many departmental personnel stated that they were not aware of the need for a usage agreement. We noted that UC Davis Policy and Procedure Manual (PPM) 310-10, *Telecommunications Services*, which is the campus policy covering wireless telecommunication services, does not include an explicit reference to the need for a usage agreement.

Recommendations

CR should update its “cellular data service” website, which departments must use to purchase cellular equipment and services, and include a step for departments to obtain a signed usage agreement from the user.

Management Corrective Actions

By December 15, 2015, CR will update its “cellular data service” website to include a step for departments to obtain a signed usage agreement from the user.

C. Cellular Equipment Procurement

Enhanced controls over cellular equipment procurement would result in cost savings to the University.

Authorization of cellular equipment purchases resides at the departmental level; as such, CR has no ability to establish controls over departmental purchasing practices. G-46 states that when purchasing equipment, the department should seek out cost-effective products.

IET management raised concerns to us about two campus cellular equipment purchasing practices that are not cost-effective: (1) a tendency among some cellular users to repeatedly purchase the latest device model prior to the termination of the existing contract on their current device; and (2) the lack of a campus-wide required strategic sourcing contract with a single vendor which establishes limits as to the choice of devices available for purchase. Because of these concerns, we performed limited audit procedures to examine these two issues, as discussed below.

- (1) The University only has access to the most recent three months of billing data from our largest carrier, AT&T, which essentially prevented us from performing an analysis regarding the frequency of employees obtaining new devices.
- (2) We were able to use current inventory device reports to determine that campus employees have wireless service through AT&T for approximately 2,200 devices from over 10 different companies. The billing data does not distinguish the one-time purchase cost from the cost of services, so we were unable to determine how much the campus had expended for these devices. We used current market values from sources such as apple.com, Best Buy, and eBay to estimate that the 2,200 devices have an aggregate market value of approximately \$850,000. (Note that cellphone market values vary from a \$20 LG cell phone to the \$850 iPhone 6 plus.⁴)

The variety of manufacturers and models for cellular equipment indicates that a strategic sourcing contract with a single vendor would result in cost savings for the campus. The degree of cost savings clearly would be dependent on the parameters established by management regarding the types of devices available for purchase.

Recommendation

We are not making any recommendations to CR because this fall the campus is scheduled to implement a new web portal procurement system and to reengineer its procurement practices to include a stronger emphasis on strategic sourcing initiatives. The new web portal and procurement practices should result in increased opportunities to move toward greater control over decentralized purchasing practices relating to all commodities, including cellular devices.

⁴ Please see Appendix for detailed breakdown of cellular devices under AT&T accounts.

Appendix: Cellular Equipment Analysis*

Device Make	# Devices	Market Value
Apple	1,489	\$ 736,581
Samsung	322	\$ 84,194
Sonim Technologies	168	\$ 16,846
Sierra Wireless	57	\$ 2,612
LG	44	\$ 3,130
Pantech	42	\$ 1,436
Nokia	39	\$ 3,696
Novatel Wireless	25	\$ 1,615
Motorola	25	\$ 3,810
HTC	13	\$ 2,408
Netgear Wireless	3	\$ 147
Grand Total	2,227	\$ 856,476

Device Make	Phone or Device Model	# Devices	Market Value	Device-Market Rate
Apple	iPhone 5S A1533	310	\$ 185,690	\$ 599.00
Apple	iPhone 6	212	\$ 158,788	\$ 749.00
Apple	iPhone 6 Plus	79	\$ 67,071	\$ 849.00
Apple	iPhone 4S	161	\$ 64,398	\$ 399.99
Apple	iPhone 5 Model A1428	170	\$ 56,098	\$ 329.99
Apple	A1459 iPad	76	\$ 53,199	\$ 699.99
Apple	A1475 iPad Air	87	\$ 46,109	\$ 529.99
Apple	iPadwifi4G A1430	75	\$ 26,249	\$ 349.99
Apple	iPad 2	112	\$ 21,839	\$ 194.99
Apple	iPhone 5C A1532	46	\$ 20,700	\$ 450.00
Apple	iPad Air 2 A1567	20	\$ 14,580	\$ 729.00
Apple	iPhone 4	84	\$ 8,399	\$ 99.99
Apple	A1490 iPad Mini w Retina	9	\$ 4,311	\$ 479.00
Apple	iPhone 4S Model A1387	8	\$ 3,600	\$ 449.99
Apple	A1454 iPad Mini	7	\$ 2,653	\$ 379.00
Apple	iPad	19	\$ 1,976	\$ 103.99
Apple	iPhone 3GS	10	\$ 760	\$ 76.00
Apple	iPhone 3G	4	\$ 160	\$ 39.99
Grand Total		1,489	\$ 736,581	

*Source: From major AT&T accounts.