Rate Setting for Department of Technology


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Department of Administration


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Problem Statement

The beginnings of the State Department of Technology (DTO) started as a few lines of text in Section 11-35-1580 of the Consolidated Procurement Code during 1981 (History: Department of Administration - State of South Carolina).  DTO initially operated as a statewide telephone company and its operations have expanded significantly over time.   Today, DTO operates as the Shared Services Information Technology Division for the State of South Carolina offering anywhere from email services to fully managed desktop services (History: Department of Administration - State of South Carolina).  DTO's vision statement is, "to be the leader in the application of technology to deliver cost effective services for citizens, businesses and government organizations (Mission: Department of Administration - State of South Carolina).  The vision statement reflects the expansion of DTO's business from telephone company to a fully functioning shared services center.

Offering numerous services is complex and expensive and, as a shared service center, DTO must set rates and bill for its services.  Currently, DTO sets rates for its services through a manual process and lacks a continuous rate process.  A continuous rates process is an annual analysis of all rates charged for services lines and updating rates for changes in cost or demand.  It provides up to date prices to the customers and solid current data to perform budgeting and forecasting internally within the organization.

To compare DTO division's rate setting process to other like entities, I reviewed The New York Office of Information Technology Services (NYOTIS) rates process. As part of this process, New York analyzes cost variances comparing forecasted expenses versus actual expenses to yield rates that need changes or further review (FY 2019 Rate Setting Presentation).  Currently, South Carolina DTO's manual process is not efficient or effective enough to support continuous rate review.  NYOTIS rate's process is a

good example of a fully implemented annual rate review and DTO could reference and leverage their process to implement a continuous rates process.

As a not for profit entity and a billed central service for the state of South Carolina, Federal costing regulations dictate and define the rules governing DTO's rates setting process. The Federal costing regulation set forth for DTO to follow is Part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (United States, Congress, PART 200—UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS FOR FEDERAL AWARDS Subpart F). A subsection of these regulations, Appendix V of CFR 200 details the process to develop rates for a Billed Central Service. Appendix V states that a Billed Central Service must have "a defined balance sheet for each fund based on individual accounts contained in the governmental unit's accounting system; a revenue/expenses statement, with revenues broken out by source, e.g., regular billings, interest earned, etc.; a listing of all non-operating transfers (as defined by Generally Accepted Accounting Principles (GAAP)) into and out of the fund; a description of the procedures (methodology used to charge the costs of each service to users), including how billing rates are determined; a schedule of current rates; and a schedule comparing total revenues (including imputed revenues) generated by the service to the allowable costs of the service, as determined under this Part, with an explanation of how variances will be handled" (United States, Congress, PART 200—UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS FOR FEDERAL AWARDS Subpart F). These regulations have to be the basic foundation that DTO uses to develop rates for services. To apply these regulations, continuously review the rates, and sustain this process in the future, DTO needs a dynamic new system to handle rate review.

<u>Data Collection and Data Analysis</u>

To comprehend DTO's needs, the current state of the rate setting process and underlying financial data must be analyzed. All financial data for DTO activities is in the SAP based, South Carolina Enterprise Information System (SCEIS). This financial data is comprised of thousands of individual transactions that make up DTO costs. DTO costs include salaries, benefits, software and hardware that go into each service offered, with each rate including a portion or allocation of those costs. Currently at DTO, expenses are tracked at a high level and not individually allocated to each service line. South Carolina Enterprise Information System (SCEIS) is limited in the detail that is included. While all expenses are currently tracked, more detail is needed. In order to track salary and fringe expenses across service lines, the information needs to be broken down more specifically over many services. For example, one employee can provide input to multiple service offerings; additionally, software or hardware costs can be split across service lines.

Totaling or summarizing of all these costs can be a difficult process. Currently, DTO does this through a series of meetings with the service line managers. The managers pull together the salary, software and hardware costs they think are related to that particular service line manually into an Excel spreadsheet. Next, they meet with the accounting/rate setting staff of DTO to verify and analyze the costs. During the series of meetings, the accounting team will tie these expenses out to the SCEIS accounting system. When expenses are allocated proportionately to service lines, the accounting team then recalculates the percentages and evaluates the percentage allocations for reasonableness. Once tied out and vetted, these costs are allocated over a projected unit of measure sold for the service line. This per unit of measure cost is DTO's service line rate. The rate setting process is manual, cumbersome, and slow. The average individual service line rate can take weeks to develop. Currently, only a limited number of the DTO rates can be evaluated on a biannual or triannual basis. This can cause significant problems attempting to manage the DTO shared service business.

To fix the rate setting issues, DTO must have a dynamic rate setting model that can be updated easily.  The first step is analyzing the current steps of the rate setting process and determining if they are adequate or not for an annual process. The data collection spreadsheet (Figure 1) below collects all appropriate data to determine a rate, but is not dynamic or easily updatable.

Figure 1

Rates Estimate Template- MetroNet - with BB count update - V7

| Line Of Service Category (SWCAP) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Line Of Service | Metronet | | | | | | |
| Service Group | Network Services | | | | | | |
| Service | | | | | | | |
| CWOF Identifier | | | | | | | |
| NGP Code | | | | | | | |
| Contact Person | Charlie Zeberlein | | | | | | |

**Service Metric and Totals**

| Overhead Percentage | 26% | | Used on Overhead calculations tab |
|---|---|---|---|
| Benefits Percentage | 34% | | Used on Personnel calculations tab |

| Metric for service | Select One | Count | In Use Today | Maximum Count | DTO Count | | |
|---|---|---|---|---|---|---|---|
| Per User | | | | | | | Must be an X in column B for metric of the service |
| Per Account | | | | | | | Must be a count in Column C for the quantity of the metric |
| per Desktop | | | | | | | Only 1 X can exist in column B and must have a metric in column C |
| Per Host | | | | | | | |
| Per Device | | | | | | | |
| Per Site | | | | | | | |
| Per DB | | | | | | | |
| Per Application | | | | | | | |
| Per Port | | | | | | | |
| Per Instance | x | | | | | | Number of MetroNet connections (estimated) |
| Per License | | | | | | | Note about projections |
| Per Hour | | | | | | | |
| Per Block (or Group) | | | | | | | |
| Space Used - Per GB | | | | | | | |
| Space Allocated - Per GB | | | | | | | |
| Space Protected - Per GB | | | | | | | |

**Service Totals**

| | Hardware Costs | Software Costs | Maintenance Costs | Maintenance Costs | Total Hardware & Software Costs | Personnel Salary Costs | Benefits Costs | Personnel Costs | Vendor Costs | Assistance Costs | Overhead Costs | Required Costs | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 year Total | $ 1,377,763.05 | $    - | $    1,243,293.67 | $        - | 2,621,056.72 | $    314,207.50 | $ 106,830.55 | $   421,038.05 | $ 1,401,727.80 | $   512,200.00 | $ 1,288,565.87 | $972,764.40 | $7,217,352.84 |
| Annualized | $   275,552.61 | $    - | $       177,613.38 | $        - | 453,165.99 | $      62,841.50 | $   21,366.11 | $     84,207.61 | $    280,345.56 | $   102,440.00 | $    239,241.38 | $194,552.88 | $1,353,953.42 |
| Monthly | $     22,962.72 | $    - | $         14,801.12 | $        - | 37,763.83 | $        5,236.79 | $     1,780.51 | $       7,017.30 | $      23,362.13 | $      8,536.67 | $      19,936.78 | $  16,212.74 | |

| Monthly Cost Per Instance For a Count of 0 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |

Service Metric and Totals | Overhead | Hardware and Software | Personnel Costs | Services Required | Hardware Inventory | Sheet2 | HW C and D new | Vendor F ...

**Hardware and Software Associated with Service**

**Hardware Purchase Cost**

Notes — Example

| Description | Price | Quantity | Total | Service Years Expectancy | Years of Maint in Initial Purchase | Annualized | 5 Year Totals |
|---|---|---|---|---|---|---|---|
| Hardware Purchase Cost - See Hardware Inventory | $    825,861.44 | 1 | $    825,861.44 | 7 | 0 | $   117,980.21 | $    589,901.03 |
| From Core & Distribution | $ 1,225,563.15 | 0.9 | $ 1,103,006.84 | 7 | 0 | $   157,572.41 | $    787,862.03 |
| | | | $               - | | | $             - | $              - |
| | | | $               - | | | $             - | $              - |
| | | | $               - | | | $             - | $              - |
| Total | | | $ 1,928,868.28 | | | $   275,552.61 | $ 1,377,763.05 |

**Software Purchase Cost**

Example

| Description | Price | Quantity | Total | Service Years Expectancy | Years of Maint in Initial Purchase | Annualized | 5 Year Totals |
|---|---|---|---|---|---|---|---|
| | | | $               - | 5 | 0 | $             - | $              - |
| | | | $               - | 5 | 0 | $             - | $              - |
| | | | $               - | | | $             - | $              - |
| | | | $               - | | | $             - | $              - |
| | | | $               - | | | $             - | $              - |
| Total | | | $               - | | | $             - | $              - |

**Hardware Maintenance Renewal Cost**

Example

| Description | Price | Quantity | Maintenance Total | Years required for 5 year cost | | Annualized | 5 Year Totals |
|---|---|---|---|---|---|---|---|
| Hardware Maintenance Renewal Cost - See Hardware Inv | $    97,853.32 | 1 | $    97,853.32 | 7 | | $     97,853.32 | $    684,973.24 |
| From Core & Distribution | $    88,622.29 | 0.9 | $    79,760.06 | 7 | | $     79,760.06 | $    558,320.43 |
| | | | $               - | | | $             - | $              - |
| | | | $               - | | | $             - | $              - |
| | | | $               - | | | $             - | $              - |
| | | | $               - | | | $             - | $              - |
| | | | $               - | | | $             - | $              - |
| Total | | | $   177,613.38 | | | $   177,613.38 | $ 1,243,293.67 |

**Software Maintnenance renewal Cost**

Example

| Description | Price | Quantity | Maintenance Total | Years required for 5 year cost | |
|---|---|---|---|---|---|

Service Metric and Totals | Overhead | Hardware and Software | Personnel Costs | Services Required | Hardware Inventory | Sheet2 | HW C and D new | Vendor F ...

The data must be manually mined from the SCEIS accounting system and entered into the spreadsheet.   Managers make judgments on the inclusion of costs in rates. In general, one spreadsheet

workbook contains one rate. DTO has over one hundred different rates that can take years to review manually. To fix this issue, DTO should purchase a reporting tool with a dynamic database linking to various data sources and the ability to build dynamic queries. Dynamic queries mean a consistent and continuous report delivery to key stakeholders (management and accounting team). The current rate spreadsheets would become a data capture form feeding the reporting system and SCEIS general ledger data automatically loaded in the system. Next, all data elements needed to develop rates must be defined and mapped from the data sources (data capture forms and SCEIS). Dynamic rate models fed by the various linked data sources would be updated automatically to review at a moment's notice. These improvements would save weeks of review time on an individual service line rate.

Next, revenue and expense reconciliations to the SCEIS based general ledger system need to be developed. The rate data feeds from the data capture spreadsheets would be reconciled against the SCEIS data. Automated data extracts from SCEIS could feed the reporting system. Queries would be built to compare the data from data capture spreadsheets to SCEIS general ledger data. Actual revenue and expense data would be compared to projected service line revenue and expense data from the data captures spreadsheets. This reconciliation would ensure that DTO follows the Federal regulations. Additionally, billing would be reconciled to actual costs and time spent vetting rates data would be greatly reduced.

All rate calculations and data, once developed, should be maintained on a continual basis. An annual review of the rates would fulfill the regulations and principles set by Federal costing guidelines. Management at DTO would participate in the continuous review and all pertinent rate setting staff at DTO would be part of the process. Once the rates have been calculated, reviewed, and reconciled, then DTO would publish the rates to the general public.

Implementation Plan

DTO should implement a new rate review system as soon as possible. The first step is to get a new dynamic query builder system that can develop rate queries. The Department of Administration, of which DTO is a subdivision, owns a license for the query building report writer called Tableau. For approximately $808 per user (Appendix 1), Tableau users can create reports with calculated fields and dynamic queries to linked data sources. Tableau can easily link to the data capture spreadsheets as a data source and it can be integrated to tables with general ledger data. (Tableau: Business Intelligence and Analytics Software). A miscalculation on one service rate could cost DTO hundreds of thousands of dollars. It is easy to justify spending a few thousand dollars on a business intelligence software to ensure against losses from miscalculation. The timeline below represents a proposed plan to implement a new rate system.

**Timeline**

**2020**

January – March – Purchase and configure a dynamic reporting/query builder tool to develop rates queries (time and financial resources would be saved if Tableau is used)

April – Define and map all data elements and data sources used in the rate setting process

May – December – Construct and configure queries, reports and models to calculate all current DTO rates

**2021**

January – Review and reconcile all developed rate models

February – Assess all new rate models for data updates and begin rate review process in new system

To ensure this timeline succeeds, DTO needs to dedicate human resources to engineering the new rate system and receive communication and feedback from key stakeholders on regular basis.  The design and engineering of the new system needs to be assigned to a qualified individual and requires "on-the-job" duties listed in the planning stages.  Meetings with key stakeholders need to be held to incorporate their feedback into the new system. Finally, an annual rates plan needs to be developed that includes all the details of the forecasting, calculating, and reconciling all the cost recovery information for DTO.

Evaluation Method

This project would be judged on pass/fail criterion. If this project is implemented and the rates process becomes global and continuous, then this project is a 100% success.  Inability to implement a global and continuous rates process constitutes 100% failure.  A failure to institute a continuous process prevents DTO from offering the most accurate prices to customers and DTO will not make business decisions on the best and most current data available.  A successful implementation prevents poor internal decision making and poor customer service.  DTO will have best rates data to work with and be a more agile data driven organization.

Summary and Recommendation

The current rates setting process at DTO is inadequate, as DTO rates cannot be reviewed on a consistent or continuous basis.  The implementation of a dynamic report and query system, definition and mapping of data elements and sources, and data capture and feed automation will modernize the DTO rates process.  A continuous and automated review process better complies with Federal cost regulations and improves service to DTO customers.  This project should be implemented as soon as possible to further and completely modernize the rate setting process at DTO.

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Appendix 1

## ZONES
Connecting Business and Technology

ZONES LLC
1102 15th Street S.W., Suite 102
Auburn, WA 98001
CR Dept. (800)570-2410

Fax: (253)205-3862
EIN: 91-1431894

**INVOICE** K12144460101
Invoice date 02/13/2019
Order date 02/06/2019

**SOLD TO**
STATE OF SOUTH CAROLINA
DEPARTMENT OF ADMINISTRATION
ACCOUNTS PAYABLE
1200 SENATE STREET, SUITE 409
COLUMBIA, SC 29201-3200
USA

**SHIP TO**
STATE OF SOUTH CAROLINA
KAREN RUMFELT
4430 BROAD RIVER ROAD
COLUMBIA, SC 29210
USA

| PURCHASE ORDER NO | ACCOUNT NO | CURRENCY | DUE DATE | PAYMENT TERMS |
|---|---|---|---|---|
| 4600685261 | 0071072988 | USD | 03/15/2019 | 30 Days |

| SHIPPED | PART NO | MANUF. PART NO | DESCRIPTION | UNIT PRICE | EXTENDED AMOUNT |
|---|---|---|---|---|---|
| 10 | 006588764-SSCAR | 1331111.1803 | Creator - License - 1 Year<br>Non-returnable item | 808.00 | 8,080.00 |
| | | | Shipping Methods:<br>　　　　　FRIN019533<br>Shipped Electronically | | |

| SUB TOTAL | FREIGHT | OTHER FEES | SALES TAX AMOUNT | TOTAL |
|---|---|---|---|---|
| $8,080.00 | $0.00 | $0.00 | $0.00 | $8,080.00 |

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