



# State Agency Overcomes Cost Allocation and Account Management Challenges with Carahsoft and Amazon Web Services

carahsoft In collaboration with: 

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### About the Customer

Agency X manages the delivery of IT infrastructure services to 85 Executive Branch agencies and managed network services to 1,300 state and local government entities in its state. IT infrastructure services encompass mainframes, servers, service desk, end user computing, disaster recovery and security; 14 agencies receive all of these services through Agency X, while the remaining agencies may receive two or three of these services. Managed network services include the state's wide and local area networks, voice, cable and wiring, and conferencing services. In addition to providing managed services, Agency X serves as an aggregator for the cloud spend of its state and local entities.

### Customer Challenge

Agency X's challenge was two-fold. Because it functions as an aggregator for the cloud spend of other state agencies, it had multiple standalone AWS accounts that it used to deliver AWS services to those agencies, with a structure consisting of one or more accounts per agency. While this ensured that charges incurred by each state agency remained separate, Agency X was struggling with the administration of these various accounts, including tracking the different invoices it was receiving for each one from Carahsoft.

As a Carahsoft customer, Agency X would receive a PDF invoice and a formatted usage report detailing AWS services used each month.

When Carahsoft implemented a multi-account structure using AWS Organizations, the initial challenge was solved another remained. Under the new configuration, Agency X would receive a PDF invoice and a formatted usage report detailing AWS services used by all member accounts each month. They would then rely on this data to perform their chargebacks accurately. However, the strict timeline agreements they had with their end customer agencies to charge back by meant they were having to calculate chargebacks prior to receiving their billing detail from Carahsoft and knowing their own true costs. Attempting to solve this, the Agency X team configured a system that used Amazon Athena to manipulate an AWS Cost and Usage report to reflect their cost from Carahsoft and which they could access earlier in the month, but the reports it was generating did not align with the billing detail they would come to receive from Carahsoft. Specifically, it did not know how to account for the things that Carahsoft removes from the CUR via its automation. These inaccuracies caused Agency X to charge back to its end customer agencies inaccurately for several months before realizing the discrepancy. In addition to but of less significance than the issue of the inaccuracies, Agency X did not have a method in place to map member AWS account IDs on the CUR report to the end customer agencies they belonged to.

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## Partner Solution

Carahsoft used AWS Organizations to implement a multi-account strategy and combine the many standalone accounts that Agency X owned into a single consolidated billing family, allowing them to manage their accounts more efficiently. The accounts were organized using Organizational Units (OUs) based on account function and the management account was kept free of any workloads in adherence to AWS best practices.

Carahsoft also built a custom solution for Agency X that delivers them a modified AWS Cost and Usage Report that reflects their true cost on the 15th or 16th of each month (for usage from the previous month). In addition to this, a report was created that maps usage charges to the various end customer agencies via an 'agency code' system. These things allowed Agency X to begin charging back to their end customers both accurately and on time.

The custom solution uses an AWS Cost and Usage Report (which provides detailed information about the costs and usage associated with AWS services) that is generated and stored in an Amazon Simple Storage Service (Amazon S3) bucket. It relies on AWS Organizations to aggregate cost and usage data for all member AWS accounts belonging to Agency X into a single CUR file. A request is made to retrieve the file from the Amazon S3 bucket, the data is processed into a condensed format, and the cost data is adjusted by removing any distributor credits or discounts that may have been applied and then applying contractual discounts (this adjustment ensures that the customer is shown the actual cost they are responsible for after all discounts are applied). The processed and adjusted data is then loaded into a SQL database, where views are created for a billing period showing cost per agency, service per agency, and shared cost per agency. This step involves SQL queries to organize and present the data according to the customer's organizational structure and billing requirements. The views created in the SQL database are then condensed into a CSV file format. Finally, the file is uploaded to a shared storage solution, which the customer accesses to retrieve the file.

## Results and Benefits

The consolidation of Agency X's standalone accounts into AWS Organizations resulted in simplified management of the accounts, the capability to use features like Service Control Policies (SCPs), tag policies, automated account creation, and more efficient reserved resource utilization. Agency X account administrators reported that they saved **approximately 2-3 hours per individual per week** (previously spent on account management tasks) due to the centralized control achieved by the implementation of AWS Organizations. The FinOps team reported **7% savings on compute and Amazon EC2 usage** per month due to more efficient reserved resource utilization achieved after the implementation.

The primary result of the customized solution was the correction of the chargeback inaccuracies which was causing Agency X to lose revenue. By having access to a modified AWS Cost and Usage Report that reflects their true cost and is made available to them prior to their agreed upon chargeback date, Agency X gained the ability to collect on AWS costs from its end customer agencies both accurately and according to their timeline requirements. This resulted in Agency X **saving approximately \$2,300 in lost revenue each month** since the solution was implemented. In addition to the direct financial impact, Agency X reported that they have **reclaimed an estimated eight man hours per month** from the reduction of the operational burden associated with the chargeback process which previously fell on Agency X resources.

The solution accomplishes this via:

- **Ease of Data Retrieval:** By delivering the final report to easily accessible shared storage, Agency X resources save time and effort that would otherwise be spent manually downloading the report.
- **Data Processing and Transformation:** The solution processes and transforms raw CUR data into a condensed and user-friendly format which reflects Agency X's true costs. This eliminates the need for the Agency X resources to perform these data processing tasks manually, which can be both time-consuming and error-prone.
- **SQL Database Management:** By leveraging a Carahsoft-managed database to create views specific to the customer's needs (such as cost per agency, service per agency, and shared cost per agency), the solution eliminates the workload related to database management and maintenance on the part of Agency X.
- **Member Account ID to End Customer Mapping:** By adding custom data fields into the final report indicating the 'agency code' for each line item and member account ID, the solution relieves Agency X resources of the time and effort required to map charges to end customer agencies manually or via a separate solution.

### About Carahsoft

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