

Quality and Productivity Commission
28th Annual Productivity and Quality Awards Program
"Los Angeles County: Ahead of the Curve"

2014 APPLICATION

Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

NAME OF PROJECT: ECloud – LA COUNTY CLOUD COMPUTING

DATE OF IMPLEMENTATION/ADOPTION: Nov 2011
 (Must have been implemented at least one year - on or before June 30, 2013)

PROJECT STATUS: Ongoing One-time only

HAS YOUR DEPARTMENT PREVIOUSLY SUBMITTED THIS PROJECT? Yes No

EXECUTIVE SUMMARY: Describe the project in 15 lines or less using Arial 12 point font. Summarize the problem, solution, and benefits of the project in a clear and direct manner.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Problem - Prior to "eCloud", individual servers were being maintained for each application resulting in underutilization of server, network, and data storage capacity and duplicative support labor. **Solution** - The LAC private cloud ("eCloud") provides a more efficient and effective solution for deploying and maintaining LA County departmental computing resources. The eCloud solution leverages advanced virtualization technologies to consolidate server, network, and data storage resources, enabling IT staff to more effectively manage systems and services; moreover, shared hardware resources use less physical space, consume less power and cooling, and require substantially less person-hours to maintain due to expanded process automation associated with the eCloud environment. **Benefits** - Customers recognize benefits via accelerated and streamlined deployment of applications without depending on the procurement of new hardware. Applications run more reliably within the eCloud environment due to the flexibility and operational resiliency associated with inherent automated disaster recovery features. Significant cost savings are recognized through shared hardware, reduced power and cooling costs and optimized technical resources.

| (1) ACTUAL/ESTIMATED ANNUAL COST AVOIDANCE | (2) ACTUAL/ESTIMATED ANNUAL COST SAVINGS | (3) ACTUAL/ESTIMATED ANNUAL REVENUE | (1) + (2) + (3) = TOTAL ANNUAL ACTUAL/ESTIMATED BENEFIT | SERVICE ENHANCEMENT PROJECT |
|---|--|---|--|-----------------------------------|
| \$ 7,603,411 | \$7,634,669 | \$ | \$15,238,080 | <input type="checkbox"/> |

ANNUAL = 12 MONTHS ONLY

| | |
|---|---|
| SUBMITTING DEPARTMENT NAME AND COMPLETE ADDRESS Internal Services Department 1100 N. Eastern Avenue Los Angeles, CA 90063 | TELEPHONE NUMBER (323) 267-2101 |
|---|---|

| | |
|--|---|
| PROGRAM MANAGER'S NAME Jac Fagundo | TELEPHONE NUMBER (562) 658-4505 |
| | EMAIL jfagundo@isd.lacounty.gov |

| | | |
|--|------------------------|---|
| PRODUCTIVITY MANAGER'S NAME AND SIGNATURE (PLEASE CALL (213) 893-0322 IF YOU DO NOT KNOW YOUR PRODUCTIVITY MANAGER'S NAME) Celina Ortiz | DATE 7/15/14 | TELEPHONE NUMBER (323) 267-3111 |
| | | EMAIL cortiz@isd.lacounty.gov |

| | | |
|--|------------------------|---|
| DEPARTMENT HEAD'S NAME AND SIGNATURE Jim Jones | DATE 7-15-14 | TELEPHONE NUMBER (323) 267-2101 |
|--|------------------------|---|

Quality and Productivity Commission
28th Annual Productivity and Quality Awards Program
“Los Angeles County: Ahead of the Curve”

2014 APPLICATION

Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

NAME OF PROJECT: ECloud – LA COUNTY CLOUD COMPUTING

1st FACT SHEET – LIMITED TO 3 PAGES ONLY: Describe the **Challenge, Solution, and Benefits** of the project.

Challenge

Deployment & Maintenance:

Prior to eCloud, the process of deploying a server took several weeks and required support from multiple technical groups to ensure proper space planning (including power & cooling), software patching, network configurations, security certification and appropriate “on-boarding” (monitoring\backup) processes for each physical server. The use of individual servers also requires significant resources be devoted to maintain optimal operations since each server must be supported individually with duplicative processes, hardware, and environmental resources.

Impact of Hardware Refresh:

The “end of life” expectancy for legacy hardware including servers, networks and data storage was 3-5 years, necessitating costly hardware replacement, duplicative maintenance agreements, and extensive migration efforts. In this model, legacy system customers experienced service-impacting outages during upgrades, hardware maintenance activities, and non-redundant hardware failures.

Solution

By introducing the Self-Service eCloud Portal, which automates many of the set-up processes, County IT teams can now quickly and easily deploy servers within minutes, while avoiding the need for and cost of additional power, cooling, network, and data storage considerations.

The eCloud system of centralized servers (hosts), network and data storage systems are constantly monitored, maintained, and refreshed with no impact to customer applications. In this system model, applications are seamlessly moved to other available computing resources within the cloud so upgrades and repairs can occur without impacting critical services.

Benefits

The eCloud platform provides benefits by continually infusing current technologies for customers through an annual, incremental (20%) hardware refresh program versus the traditional model of replacing all hardware every 3-5 years. Hardware and software maintenance can occur any time so upgrades are continual and applications are always running in a sound and technically advanced environment.

Although eCloud uses a shared infrastructure, it has also been designed with an emphasis on security and isolation. Virtual partitions known as Virtual Data Centers (VDCs) are used to divide the applications from different departments. Access to the VDCs is strictly controlled, employing the same access rules as if the servers were physically separated, guaranteeing that application security is not sacrificed.

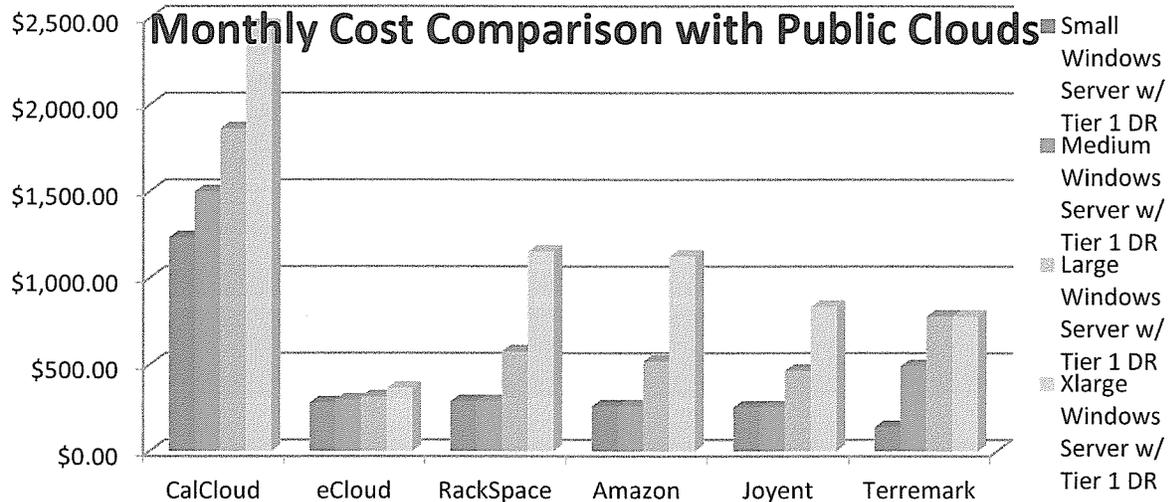
Quality and Productivity Commission
28th Annual Productivity and Quality Awards Program
"Los Angeles County: Ahead of the Curve"

2014 APPLICATION

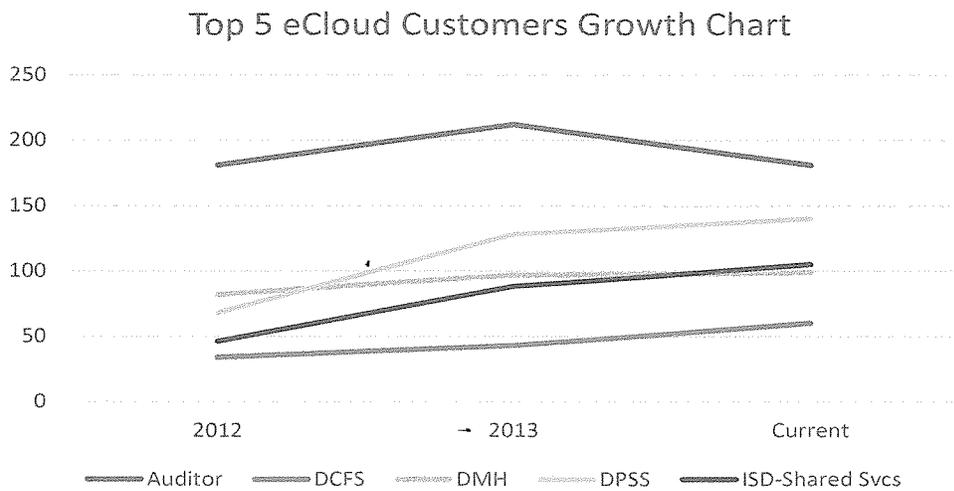
Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

NAME OF PROJECT: ECloud – LA COUNTY CLOUD COMPUTING

Private cloud computing, internally hosted by the County, has the benefits of enhanced security and efficiency. Since inception, eCloud operates over 1,900 servers, associated network and data storage components. As an example of operational efficiency, space requirements have been reduced from 34 racks to 7. LAC eCloud cost remains competitive to public cloud offerings as depicted below.



eCloud allows customers to choose from a wide variety of options and services that best align with their business requirements. These options provide greater operational flexibility, decrease cost, and increase customer satisfaction. eCloud has been built to solve daily operational needs while maintaining the flexibility to meet future challenges. This program allows County Departments to realize the benefits of operational effectiveness while supporting the County's strategic goal of fiscal sustainability.



Quality and Productivity Commission
28th Annual Productivity and Quality Awards Program
"Los Angeles County: Ahead of the Curve"

2014 APPLICATION

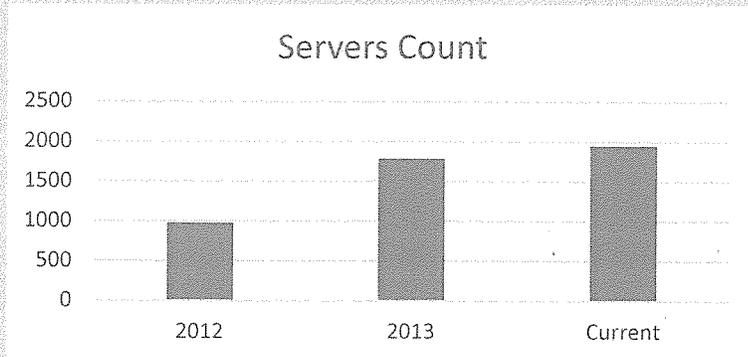
Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

NAME OF PROJECT: ECloud – LA COUNTY CLOUD COMPUTING

LINKAGE TO THE COUNTY STRATEGIC PLAN (DETAIL IS REQUIRED FOR COUNTY DEPARTMENTS):
FISCAL SUSTAINABILITY

eCloud was designed to improve fiscal sustainability in five distinct areas:

- 1) eCloud provides competitive pricing for server hosting.
- 2) eCloud reduces the time it takes to provision and manage server resources.
- 3) eCloud gives customers better information on how resources are used with powerful monitoring, reporting and analytical tools. eCloud helps improve operational effectiveness by lowering costs and increasing services.



- 4) eCloud improves the performance of County applications by optimizing resources through the use of advanced technologies. For example, the County's payroll system (eHR) saw server operational improvements of 27% to 42% by simply migrating to eCloud.
- 5) eCloud establishes the necessary shared IT infrastructure that will facilitate consolidation of departmental data centers into a central facility, with disaster recovery provided at a geographically remote alternate location.

Quality and Productivity Commission
28th Annual Productivity and Quality Awards Program
“Los Angeles County: Ahead of the Curve”

2014 APPLICATION

Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

NAME OF PROJECT: ECloud – LA COUNTY CLOUD COMPUTING

COST AVOIDANCE, COST SAVINGS, AND REVENUE GENERATED (ESTIMATED BENEFIT): If you are claiming cost benefits, include a calculation on this page. You must include an explanation of the County cost savings, cost avoidance or new revenue that matches the numbers in the box. Remember to keep your supporting documentation.

Cost Avoidance: Costs that are eliminated or not incurred as a result of program outcomes.

Cost Savings: A reduction or lessening of expenditures as a result of program outcomes.

Revenue: Increases in existing revenue streams or new revenue sources to the County as a result of program outcomes.

| (1) ACTUAL/ESTIMATED ANNUAL COST AVOIDANCE | (2) ACTUAL/ESTIMATED ANNUAL COST SAVINGS | (3) ACTUAL/ESTIMATED ANNUAL REVENUE | (1) + (2) + (3) TOTAL ANNUAL ACTUAL/ESTIMATED BENEFIT | SERVICE ENHANCEMENT PROJECT |
|---|--|---|--|-----------------------------------|
| \$ 7,603,411 | \$ 7,634,669 | \$ | \$ 15,238,080 | <input type="checkbox"/> |

ANNUAL= 12 MONTHS ONLY

Cost savings –

At the inception of eCloud, there were 977 servers operated by ISD. The average charge was \$1,530.18 per month. With eCloud, the average charge dropped by \$651.20 to \$878.98 per month. Cost savings in chargeback to departments by moving existing servers to the eCloud environment are as follows:

$$(\$1,530.18 - \$878.98) \times 977 \text{ servers} \times 12 \text{ months} = \$7,634,669 \text{ yearly}$$

Cost avoidance -

The eCloud environment has now grown by 973 new servers to a total of 1,950 servers. Costs avoided by adding new servers to eCloud compared to the legacy environment are as follows:

$$(\$1,530.18 - \$878.98) \times 973 \text{ servers} \times 12 \text{ months} = \$7,603,411 \text{ yearly}$$