Mainframe Software Solutions

Mainframe Computing Provides Customer Value and Economies of Scale

Executive Summary

The State of Oregon, Enterprise Technology Services (ETS), delivered 15 percent more services at 20 percent lower cost. Learn how ETS educates buyers and customers on the critical role of mainframe IT operations and the proven value it provides.

– Patricia Genetin, Broadcom Inc., ROI and Business Value Analytics Team

Challenge

In the application economy, practically everyone consumes technology. Almost every company and government agency is in the software business. Strategic, responsive decisions are impacting IT infrastructure performance, reliability and scalability-including the security of the data we all rely upon. Making the best choices can empower your organization to act quickly, strategically, and surpass competitors. With the right technology stack, you can improve the user experience and bring new products and services to market faster.

Opportunity

This paper presents how the State of Oregon ETS delivered 15 percent more services at 20 percent lower costs by adopting best practices for successful collaboration and communication. We compare the State of Oregon ETS rate schedules for 2013 through 2015 and 2015 through 2017, and review its 2015 through 2017 rate setting methodology to prove the aforementioned results. While a rates discussion implies an interest in cost reductions, showing real value is even better—value brings demand and demand brings revenue.

Benefits

By successfully managing its mainframe platform, the State of Oregon ETS has sparked the interest of other governments in partnering with or buying IT services from Oregon ETS. If such results can happen in an organization without profit motives, imagine the potential impact to your enterprise, including greater transactional density and economies of scale that create additional revenue and cost savings.

Straightforward management practices help bridge IT and the business, encourage collaboration and communication and foster opportunities—while aligning IT and business strategy, and improving teamwork.

Making the Best Choice Between Technology Alternatives

Strategic, responsive decisions are impacting IT infrastructure performance, reliability and scalability—including the security of the data we all rely upon.

Can business decision makers understand the advantages and differences between IT infrastructure components such as mainframe, midrange or server platforms, virtual sessions, public or private cloud, network access, transaction processing, or voice services? How much, if anything, do they need to know? It takes years of training and experience and specialized tools to manage, monitor and secure this technology, as well as many different approaches to understand the real costs and risks.

Still, organizations continue to invest greater amounts of money and resources on technology. The U.S. public sector is a useful place to look for transparent IT budgets: In fiscal year 2016, IT investment figures totaled $79.8 billion (USD), representing a 1.8-percent increase over fiscal year 2015 and a 10.3 percent increase over fiscal year 2014 outlays.[1] A breakout of Federal IT Spending for Budget Year 2016 reveals that about $78 (USD) out of every $100 (USD) the government plans to spend on civilian agency IT projects goes to basic operations and maintenance.[2] Only $22.14 (USD) would go to new development initiatives in 2016.

These growth trends and proportion of costs for ongoing support and maintenance align to similar expectations in the private sector.

IT spending or tech budget as a percentage of revenue, on average across public and private U.S. sectors, is approximately 4.3–5.0 percent.[3] This means that if your organization is one of the 2015 Fortune 1000, its revenue is at least $2 billion (USD), and at 5 percent of $2 billion (USD), a typical organization spends on average at least $100 million (USD) per year on IT. Investments of this magnitude demand understanding and oversight, especially when there are a multitude of choices that enable a range of short-term and long-term cost and benefit trade-offs.

According to IBM, over 70 percent of the world's corporate data is housed on and managed by mainframe computers and 55 percent of corporate apps need a mainframe to complete transactions. This makes it even more critical and challenging to ensure that internal decision makers and customers procuring computing power understand the value and contribution of mainframe technology and services.

Making the best choices can empower your organization to act quickly and strategically, and surpass competitors. With the right technology stack, you can improve the user experience and bring new products and services to market faster. In the application economy, it's imperative that you ensure IT performance, stability, securability, and reliability.

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1. Wyatt Kash, "New details released on proposed 2016 IT spending," last modified February 4, 2015 http://fedscoop.com/what-top-agencies-would-spend-on-it-projects-in-2016
2. FY16_MegaITPortfolio-Presidents_Budget.xlsx, "Federal IT Spending for Budget Year 2016" https://itdashboard.gov/sites/default/files/itPortfolioReport/6
3. Andrew Bartels with Peter Burris and Amanda LeClair, "Forrester's Data Can Help CIOs Defend And Improve Tech Budgets; 2014 To 2015 Tech Budget Benchmarks," February 10, 2015

A Successful Approach that Promotes Choice and Increases Satisfaction

To promote technology choice and increase stakeholder satisfaction, let's discuss an approach that was successful at the State of Oregon, ETS. To create customer value and economies of scale, ETS Manager Matthew Massey provides his ingredient list of best practices that improve collaboration, keep costs down and speed time to market for Oregon's state-wide IT operations, which encompass over 2,300 UNIX, iSeries, Windows and Linux servers, and a 2700 MIPS mainframe. ETS is responsible for software that runs agency applications on each of these computing platforms, and services across 600 statewide agency locations. Through a partnership with the State of Montana, an Oregon mainframe warm disaster recovery site is located in Montana, and Oregon backups are replicated off site and in Montana.

Oregon's Chief Information Office (CIO), IT Investment and Planning Section, is responsible for recommending and developing IT-related administrative rules, policies, standards, practices and guidelines for Oregon State government.[4] Their approach for creating customer value and economies of scale could be applied by any organization, public or private, and its trading partners. Mr. Massey describes his ingredient list of best practices for mainframe management, including:

The best practices for mainframe operations management include the following tasks:

- Conduct monthly tech meetings to communicate IT plans and increase awareness.
- Give customers a voice in any changes.
- Build partnerships with your software vendors to encourage a team philosophy (for example, CA is a key partner for the State of Oregon).
- Reduce product lines by retiring similar products. This reduces support barriers when there are a smaller number of vendors. For example, the State of Oregon team has standardized on key tools such as CA Endevor® Software Change Manager and CA Workload Automation ESP Edition.
- Focus on training and include all relevant staff—yours and your customers'.
- Build outreach groups for sharing knowledge between your customers.
- Standardize the environment and promote win-win benefits, including faster, better support; volume discounts; and improved education.
- Use project tools, standards and methods to complete changes and upgrades.
- Use contracted resources for large upgrades, one-offs, or major efforts that need staff augmentation or expertise.
- Come up with creative ways to contract software and services to manage costs. For example, leasing helps to keep current on the latest hardware versions and realize better performance.
- Work with customers to understand their requirements so you can better manage capacity, performance and purchase based on need.
- Automate as many of your IT functions as possible to improve efficiency.

These practices include flexibility to provide internal customers with open-choice options for implementing their desired applications and services. Regular monthly meetings, and transparent plans and charges, help customers recognize the trade-offs of making a one-off custom decision versus leveraging a standardized option that might also include an economy-of-scale benefit. Slightly higher costs may also mean substantially higher benefits, and the customer is in the best position to determine cost-benefit trade-offs—the choice is always the customer's.

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4. "Statewide IT Policies-Policy Overview," accessed January 11, 2016 http://www.oregon.gov/DAS/CIO/ITIP/Pages/ pol_index.aspx

Educating on Value—Customer Perspective

Providing customer value is not enough—you have to show your internal customers the value.

In the case of the State of Oregon, the Department of Administrative Services (DAS) formed a Customer Utility Board (CUB) to govern Technology Services. Participation in the CUB provides customers with a "… meaningful voice in the costs, type, quality and quantity of services delivered."[5] Its primary responsibilities include approving rate-setting methodologies and rates, approving general service level agreements (SLAs), and reviewing business plans and annual financial statements. The objective of SLAs is to ensure both parties understand and agree how services will be performed and the responsibilities and expectations

of each party. Services included in a service catalog should be identified and described from the customer's point of view. As State of Oregon's documentation states, "This helps to emphasize and explain the benefits, outcomes and deliverables that the customers receive when purchasing a service, as opposed to describing the whole set of internal support processes and activities executed by ETS staff in order to deliver these services."[6]

So how can value-setting be accomplished? You must perform the following steps:

1. Define service offerings and appropriately distribute costs, such as staffing, overhead, network and storage, into cost pools for the correlating IT and business services. IT can identify the total cost of each of its services.

2. Compute unit costs. Select an appropriate unit of measure for use in apportioning these costs. These unit costs, also represented as rates, educate buyers to make informed decisions. Typical units of measure include mainframe processing CPU minutes, data storage gigabytes and number of secured sites. Rates help buyers understand, monitor and manage their usage of IT, and reveal the economies of scale made available through increased usage.

Economies of scale represent "… the cost advantages that enterprises obtain due to size, output, or scale of operation, with cost per unit of output generally decreasing with increasing scale, as fixed costs are spread out over more units of output."[7]

You create economies of scale by leveraging fixed cost resources or idle capacity. IT must make thoughtful, relevant allocations, or risk distorting unit costs and steering buyers to alternative sourcing, thereby defeating the purpose of this effort. But, when done correctly, as proven by State of Oregon ETS, these service definitions and corresponding rates and SLAs are a foundation for educating and collaborating with customers.

Insights like these from State of Oregon ETS and CA Technologies, A Broadcom Company, come from technical expertise. The opportunity is significant, and obligates IT operations personnel to communicate and collaborate on the value, innovation and competitive differentiation available to be leveraged. Additionally, awareness is significantly improved when IT speaks the language of the business—money. By collaborating on an IT Service Catalog that describes IT offerings and charging methodologies, the business is better informed to make prudent choices. Providing transparency and engaging in two-way communication to understand operations, technologies, costs and volumes can help steer your business stakeholders to make knowledgeable decisions.

5. "State of Oregon ETS Rate Schedule and Methodology," last accessed January 11, 2016 http://www.oregon.gov/DAS/ETS/Pages/rates.aspx
6. Enterprise Technology Services-Governance, http://www.oregon.gov/DAS/ETS/Pages/governance.aspx
7. Alex Pettit, State CIO and Interim Administrator for Enterprise Technology Services, State of Oregon ETS Service Level Agreements, "Enterprise Technology Services _ Service Level Agreement _Version 1.1, February 25, 2015 http://www.oregon.gov/DAS/ETS/Documents/SLA_Baseline.pdf

Educating on Value—Industry Perspective

Wherever you sit on the spectrum of mainframe platform usage, you can realize economies of scale.

Mainframe Software Solutions chief technologist, Scott Fagen, submits that transaction density (computed as the amount of IT interactions divided by the sum cost to deliver those transactions) is the key.

Mainframes can deliver significantly higher transactional density through a number of key capabilities, including the ability to instantaneously deliver incremental capacity for IBM z Systems. Bringing a new processor and memory to bear on a problem merely requires a mouse click and is completely transparent to the running workload; everything gets what it needs as it is effectively parceled out by the system. With this type of infrastructure, you can use what you need, when you need it, and pay for it while you use it, maximizing utilization and minimizing white-space costs.

In the case of the State of Oregon ETS, the organization first took the step to improve upon the denominator of the transaction density equation—and reduce delivery costs. This helped improve the overall processing power value proposition to customers and initiated a cycle of lower-unit costs to bring greater transaction volumes. The results for State of Oregon ETS show the benefits of increasing transaction density.

Delivering More Volume at Lower Cost

Customers are buying 15 percent more and paying 20 percent less.

Economies of Scale and Customer Value

The State of Oregon ETS practices are yielding success, as shown by comparing State of Oregon ETS 2013 through 2015 and 2015 through 2017 rate schedules, and reviewing their publicly available 2015 through 2017 rate setting methodology and SLA documents. The following figures are these excerpts put into graphs.

The following figure shows a biennial increase in service volumes for various mainframe, storage, and security services. State of Oregon ETS customers are purchasing, on average,15 percent more units per year. This can be attributed to ETS better understanding their needs, developing customer forums for enhanced education and collaboration, and empowering customers to make the best cost-benefit trade-off decisions for their own organizations.

Figure 1: State of Oregon ETS-Increasing Volumes
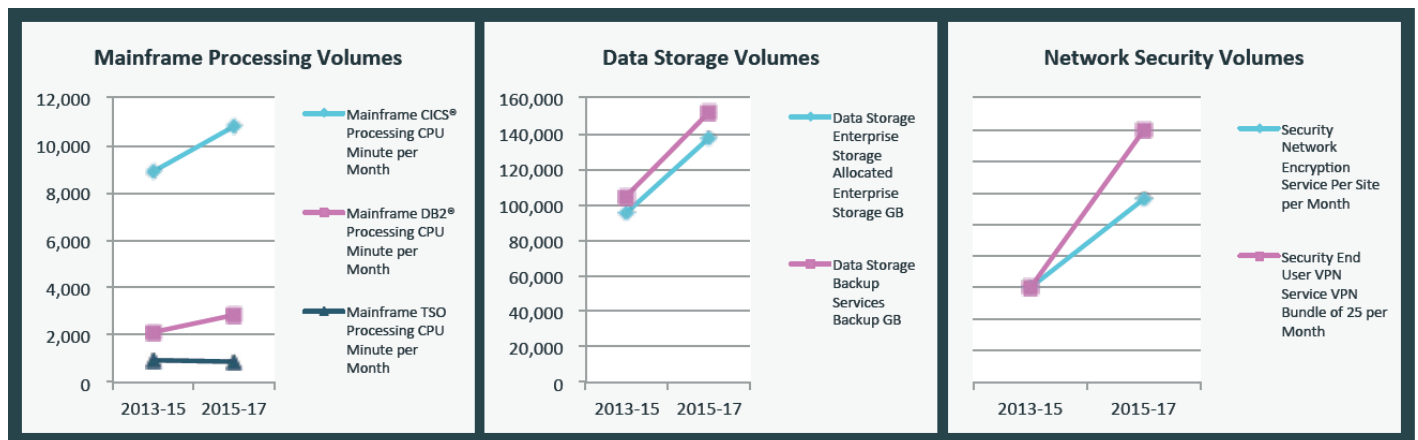
The following figure is an excerpt of corresponding unit rates put into graph format. These show a biennial decrease in unit rates for the same mainframe, storage and security services shown above. State of Oregon ETS customers are spending, on average, 20 percent less per year (for greater volumes of service), a statistic which can be attributed to ETS standardizing and simplifying hardware and software products and services, directly associating costs to consumption, building ETS/vendor partnerships and improving financial transparency.

Figure 2: State of Oregon ETS-Decreasing Costs/Rates
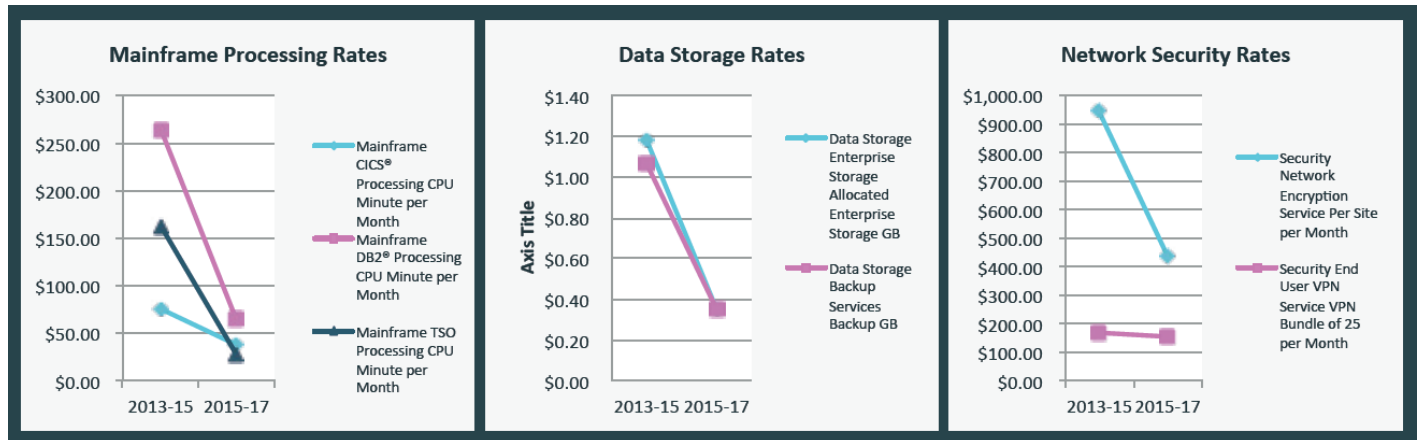
These results compelling proof of Oregon ETS' success. While mention of rates implies an interest in cost reductions, the ability to show real value is even better-value brings demand and demand brings additional revenue. The State of Oregon ETS recognizes that rates steer buyer behavior. Therefore, its rate-setting methodology incorporates an assessment as a base charge for particular discretionary services-that is set to an amount based on criteria such as the customer's (each state agency's) IT budget amount and number of employees. This data helps Oregon ETS show meaningful incremental rates that will be charged based on usage. ETS recognizes that rates steer buyer behavior. Therefore, its rate-setting methodology incorporates an assessment as a base charge for particular discretionary services—that is set to an amount based on criteria such as the customer's (each state agency's) IT budget amount and number of employees. This data helps Oregon ETS show meaningful incremental rates that will be charged based on usage.

Figure 3: Value Brings Demand and Demand Brings Additional Revenue

State of Oregon ETS is further realizing this success beyond its own state agencies. Other state, city, and local governments are showing interest in partnering or buying IT services from Oregon ETS. In government, this could result in a budget surplus. In business, additional customers could stimulate increased revenue.

Additionally, these practices can help your organization foster its ability to recognize and act on opportunities to boost business revenue by right sourcing your technology, from mobile to mainframe and on-premise to cloud—ensuring due consideration to cost, quality, and most important, expediency.

If these results are possible in an organization without profit motives, imagine the potential positive impact to your enterprise.

Economies of scale are the cost advantages that enterprises obtain due to size, output, or scale of operation, with cost per unit of output generally decreasing with increasing scale, as fixed costs are spread out over more units of output.

Conclusions

Increasing interest in using your IT services brings greater transactional density and economies of scale that can spark additional revenue and cost savings. In today's fast-paced environment, velocity is a key consideration and time is of the essence as market conditions rapidly change. So, how can IT deliver the right services, on time and within budget? Straightforward mainframe and business management practices can be the answer. Like the State of Oregon ETS, you can bridge IT and the business by encouraging collaboration and communication and fostering opportunities to increase revenue and reduce costs—all while aligning IT and business strategy, and improving teamwork.

When IT leverages business practices for defining its services and shows real value, services usage increases and costs per unit can be reduced. This economy of scale benefits an organization at the corporate level. It benefits the organization's IT buyers and consumers. And it steers decision makers to make better procurement choices. Learn more about how Mainframe Software Solutions can help your business.

For more information, see mainframe.broadcom.com

About the Author

Patricia Genetin is currently an advisor in the Broadcom Product Marketing organization. She joined CA Technologies, A Broadcom Company, in 1999. She has held a variety of roles in professional services, product management, presales, and marketing. Her work with clients and sales teams identifies, computes, and presents ROI and Business Value Analytics for the company's top-selling distributed and mainframe solutions.

Patricia's background includes mainframe software development (analysis, coding and testing of custom business applications utilizing COBOL, DB2, IMS, CICS, TSO, Assembler and JCL), accounting, auditing, and other business operations and management activities.

She holds an ITIL Service Manager certification and has been a Certified Public Accountant since 1990.