The Future of IT: A Zero Maintenance Strategy

By balancing portfolio maturity with operational agility, IT organizations can more effectively manage discretionary and nondiscretionary spending and keep the enterprise operationally efficient and business relevant.

Executive Summary

Among the many operational challenges corporations continually face is the question of how much time and money they should allocate to application maintenance.

The ideal answer is zero.

We all know that if applications run without failing and deliver the expected business function without manual intervention, then the IT organization has some semblance of near zero maintenance. But this is only a theoretical possibility.

So, the question is how can IT organizations move toward zero maintenance?

Zero maintenance, as an objective, may not be easy to achieve, but as an initiative it can be a driver for delivery improvements and transformational results. It also removes any boundaries that are put forward by traditional IT management. It helps IT organizations think beyond the “effort savings” drive.

While CEOs are continuously challenged by dynamically changing business models and advances in technologies, CIOs are typically challenged to find the optimal mix of discretionary and nondiscretionary spend. As the application/infrastructure portfolios change based on business needs, oftentimes the cost savings (or reduction) promised by vendors becomes a “sliding target” (which means, 30% to 40% cost reduction does not necessarily mean 30% to 40% reduced costs). Therefore, it becomes imperative for CIOs to segment their spend based on the characteristics of their application portfolio (i.e., volatility, criticality, scalability etc.), an ever-changing dynamic that must be balanced with ever-changing business and technical needs to ensure that delivered IT services enhance business value and keep the “running cost” low.

This white paper analyzes the root cause of this cost reduction paradox and recommends a solution that addresses the dual mandate of achieving zero maintenance and delivering improved business results using a structured approach.
Breaking Down the App Maintenance Budget

Nondiscretionary Spend

The primary sources of nondiscretionary cost, in the application maintenance context, are “incidents” and “service requests” – the former the result of poor “technical value” of the portfolio and the latter the result of poor “business value” and/or “operational value” of the portfolio. Added to this is the differential cost of infrastructure, which extends beyond the functional and nonfunctional requirement of the application portfolio.

In our experience, numerous initiatives can be undertaken to reduce nondiscretionary spend. These are broadly classified into the following categories:

- **Eliminating service delivery effort**: Ending incidents/service requests, plus automating the resolution of unavoidable incidents/service requests.
- **Optimizing and healing infrastructure**: Right-size the infrastructure and adjust the infrastructure that causes application stress and vice versa, plus reclaiming unused/underused infrastructure.

Discretionary Spend

Full optimization of discretionary maintenance can be achieved only if applications are developed to fulfill existing user requirements and to anticipate future business needs. In the current business context and competitor landscape, it is practically impossible to predict future business needs. Hence, optimizing discretionary expense should be redefined as the ability to minimize the time and implementation costs of making functional changes to the application portfolio to enable the business to remain competitive and relevant.

We have developed frameworks that help optimize discretionary expenditure in two ways:

- **Reduce time-to-value**: The frameworks in this category reduce the cycle time to implement a new business requirement to production.
- **Increase technical and functional value of portfolio**: While the frameworks in the above category will address the process and collaborative aspects of reducing the cycle time, the frameworks in this category “fix” the underlying application/infrastructure portfolio, so upgrades can be made smoothly and as “locally” as possible.

The Cost of ‘Over-Optimization’

The drive toward lean maintenance is not without its drawbacks. By over-optimizing the applications and portfolio, it is quite possible that IT becomes “less friendly” to the business. Problems include denying complex changes, unwillingness to accommodate “unrealistic time-lines,” exceeding budgets for future-proofing the portfolio, etc. While full optimization is theoretically achievable, the cost of achieving it may not be justifiable from the ROI perspective.

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For example, the IT organization may not want to eliminate 10 tickets per month by investing $10 million for fixing the application whose problems cause those tickets. While the IT organization may reduce the maintenance cost of the application portfolio, doing so could have an adverse impact on the opportunity cost.

In effect, there is a possibility that by being overly cautious on maintenance, an application, over a period of time, can become less functionally rich. It is therefore vital to ensure that the application portfolio delivers the desired business outcomes to ensure relevance.

As a result, IT organizations must establish a strong governance mechanism to balance portfolio maturity with business agility.

Managing Application Debts

To meet the dual mandate of driving down maintenance costs and managing opportunity costs, it is important that IT organizations make compromises. These compromises, which are essential to achieve operational excellence, are typically quantified as technical, operational, functional and knowledge debts. Therefore, it will be important to list, maintain and clear them within a short period.
Our debt management framework helps IT organizations identify and address these debts. While being useful to achieve quick results, debts, if retained over a long period of time, will cause application quality to suffer, which results in an application that is less maintainable and more expensive to use and operate. (This is similar to a financial debt where the interest builds over a long period of time and becomes prohibitive if repayment is ignored.)

**Deliver Business Outcomes**

Any application, apart from being maintenance-free, should also remain relevant to the business and deliver improved time-to-value. It is therefore crucial that IT organizations calibrate the application on business throughput. A top-down approach from business need and bottom-up approach from business KPI should be performed to deliver the desired business outcomes.

Our frameworks help clients in this journey across the following dimensions:

- **Maximize application yield:** Applications will contribute to the business outcome with varied degrees of intensity. The calibration of the functional value of the individual application is an important part of our approach. The functional value, along with the throughput, defines the yield of the application. Frameworks in this category strive to increase the yield of applications that are critical to the business.

- **Improve the business value of the portfolio:** The business value of the application portfolio is characterized by its degree of influence and functional relevance for delivering the business outcome. Frameworks in this category benchmark the current business capability of the application portfolio and strive to align all the improvements and transformations toward delivering desired business outcomes.

**Quick Take**

**A Tried-and-True Framework for Application Value Management**

Our suite of frameworks called AVMplus™ helps IT organizations formally assess their application portfolio’s business, operational and technical value, and provides specific interventions that will significantly reduce maintenance costs.

These frameworks take qualitative and quantitative inputs at the application level and classify them into predefined categories based on their relative age in the "deploy to retire" continuum. The frameworks also, wherever feasible, collect information from service management data, environment data and even from the source code. The frameworks also connect the infrastructural needs of the application portfolio toward achieving their business objectives so that the application's technical and business relevance are "inclusive" rather than siloed.

By applying Cognizant AVMplus™ frameworks:

- A leading North American retailer cut $2.4 million in costs over three years through portfolio rationalization and increased application stability.

- A life sciences major reduced its application landscape by 40% through portfolio rationalization.

- A large U.S. financial services firm generated $3 million in revenue annually via additional billed business acquired through alignment of IT services to business outcomes.

- A U.S.-based retailer reduced its monitoring effort by over 80% through process automation.

- A large U.S. energy company gained approximately $24.1 million in business value through accelerated innovation, improved service quality, vendor-agnostic portfolio rationalization and better alignment of IT and business.
Looking Forward
In conclusion, IT organizations should look at the following vital parameters to move toward zero maintenance strategy:

- Clearly differentiate processes and systems that contribute to Cap-Ex and Op-Ex. Set up a governance structure to continuously monitor, capture and report the maintenance spend on a regular basis.
- Understand those elements that potentially contribute to increased maintenance costs. Devise a zero maintenance strategy by identifying themes and levers that can be applied across application, infrastructure and business process areas.
- The zero maintenance journey can be effective only if perceived holistically. Involve key stakeholders cutting across multiple IT layers, from the initiation stage onward, in order to derive synergistic benefits. Look for improvements in key focus areas such as processes, operating models, services, tools and infrastructure.
- Organizations should embrace change and be ready to invest in automation solutions to improve business throughput and allow SMEs to focus on innovation that will enhance their portfolio management capability.
- Perform checks and balances using a debt management system to ensure that the portfolio is fit for use and fit for purpose.

About the Author
Srinivasan Thiagarajan (Srini) leads Cognizant’s Application Value Management Center of Excellence. With over two decades of IT work experience, he has played many roles including delivery management, account management, business consulting and general management. In his current role with his team of consultants, Srini articulates, designs and implements models that help companies embrace global managed services strategies, irrespective of their current level of maturity. He has a master of engineering degree in computer science from Birla Institute of Technology and Science, Pilani. Srini can be reached at Srinivasan.Thiagarajan@cognizant.com.