

TR-60 ICT LIFECYCLE MANAGEMENT COMMITTEE

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Executive Overview

The development and introduction of Information and Communications Technology (ICT) in the last 190 years since the first telegraph and evolution of standards bodies in the early 1900s has led to a focus on establishing uniform engineering or technical performance criteria, methods, processes, and practices for the manufacturing, interoperability, safety, installation and policy for ICT devices and infrastructure. The rapid development, release and adoption of new ICT equipment and infrastructure since the rise of networking and the Internet has not included the development of standards to manage the operation and lifecycle of the underlying technology.

Since ICT standards generally concentrate horizontally across markets, the management of technology for day-to-day operations that are specific to an industry vertical are siloed from company to company or addressed narrowly within the charter of some standards or best practices bodies. The result is inconsistent technology management with very little interoperability from site to site, even within the same companies. This is further complicated by regional, national and global differences. The cost is high with modern ICT management professionals managing problems ranging from the inability to make fact-based, real time decisions about their systems; handling a collection of dissimilar networks or systems; or even establishing service level agreement (SLA) baselines for managed service providers (MSP) in order to provide consistent business outcomes across an enterprise. Further, as new technology is layered over old with no lifecycle-driven management, technology can become the problem instead of the solution. The answer is to create a new TIA Standards Engineering Committee whose purpose is to create standards for the management of technology for qualifying vertical markets.

Problem Statement

The underlying pressures driving IT and ICT management have not changed for many years. There is consistent pressure on containing operating costs, improved availability, capacity constraints and dependencies. New additive management drivers are emerging that force the inclusion of ever-expanding geography and standardization across the enterprise. The cost of site to site inconsistencies, logjams created by decades of accumulated technology and reverse engineering as a strategy have become watershed issues. The historical answer has been to simply add new technology to solve the problem, however the years without technology management standards are forcing businesses to make uncomfortable decisions. Some are choosing to abandon facilities and start over in new facilities. Some have chosen to ignore the problem. Others engage in periodic technology cleansing, but because they lack standardized management approaches, simply fall into a “rinse and repeat” cycle.

The problem is pervasive. The author has not been able to find a single company with more than 100 employees that doesn't have significant issues with the management of technology. The endless introduction of new technology leaves most companies struggling to keep up, with little thought given to the building storm from the lack of comprehensive management. Some general progress has been made through more than a decade of focus on the data center, but much of the technology-centric management standards that have been developed, are difficult to apply to the remaining 80% of the enterprise space. Further, as the data center has moved farther away from the end user, sometimes to other continents, the stress on the performance of the 80% of the network that isn't the data center is creating business issues. Availability is dropping and the performance of cloud-based applications are beginning to surface as a next generation problem. The problem is multi-faceted, and fix is multi-disciplined. A representative list of issues created because we don't have an ICT Lifecycle Management Standard include:

- Siloed management of technology by multiple local teams
- Inability to implement regional, national or global centralized management – no visibility
- Inability to utilize databases and other asset and change management tools due to lack of standardized practices
- Logjams of old technology preventing updates and progress leading to micro audit requirements for each move, add or change, causing efforts to cost several times what may be needed for the simplest improvements
- Reverse engineering for disaster recovery and business continuity
- Trusted data often exists but is seldom used or updated, with no central repository of information or standards for developing and managing it
- Corporate standards only have about 30% compliance
- Lack of processes and systems to maximize data collection and management
- Lack of audit trails to manage change
- No standard to manage MSP's performance or set SLA
- Lack of common naming and management standards results in major diversity from site to site
- Inability to identify dependencies during moves, adds and changes

ICT Lifecycle Management Standards

The solution is to create a new TIA Standards Engineering Committee that focuses horizontally and vertically across ICT and selected verticals. The ICT Lifecycle Management Committee and Subcommittees would focus on 5 areas with at least 33 individual modules. The 5 areas and modules include:

Planning

- Policies
- Trusted Data
- Naming Standards
- Stakeholders

- Centralized Management Hierarchies and Methods (allows for collapsed or distributed management strategies)
- Databases
- Business Outcomes

Documentation

- Audits
- Database-Friendly Administration/Labeling
- Asset Management
- Change Management
- Reporting
- Dynamic Standards for Drawings and Specifications
- Knowledge Transfer

Design

- Big Data
- Gap Analysis
- Business Process Analysis
- Requirements Definition
- Engineering
- Network Architecture
- Security

Remediation

- Infrastructure
- Hardware
- Telecommunications
- Administration
- Management Processes
- Training

Operation

- Service Level Agreements
- Service Desk/Help Desk
- Incident/Event Management
- Lifecycle Management
- Circular Economy
- Governance

When combined, these five (5) practice areas cover the full lifecycle of the management of technology. They address the current issues and provide a collaborative vehicle to address future issues as technology continues to evolve and present new operational challenges. However

modern standards must address the issue but demonstrate a path to reduction in risk and positive business outcomes. The potential business outcomes from the creation of an ICT Lifecycle Management Committee and vertically-aligned standards include the following:

- Informed real-time decisions
- Reduction in Capex and Opex due to efficiency
- Improved disaster recovery and business continuity
- Removal of logjams from accumulated technology
- Ability to provide centralized management – regardless of span of control
- Improved change management with audit trails
- Reduced travel costs for IT staff
- Baseline for MSP performance management
- Improved management of remote sites
- Better enforcement of enterprise standards
- Reduced planning and launch time for major upgrades and rollouts
- Ability to identify network dependencies
- Improved network performance
- Availability and accuracy of Big Data permits increased innovation
- Reduced implementation times for new or upgraded technology leading to increased competitiveness.

The roadmap for the development of the vertically-aligned standards would begin with the **Enterprise ICT Lifecycle Management Standard** and the **Broadcast ICT Lifecycle Management Standard** because both have broad support from existing and new TIA members who have indicated a desire to participate. Subsequent Technology Standard areas that seem to have merit and demand are Service Provider/Carriers, Industrial and Transportation. On the surface these standards might have broad appeal to existing TIA members and new members who have largely remained in the shadows.

As mentioned earlier in this document, some narrowly-focused overlap exists within standards and best practices published by TIA and the following;

- ISO - Various
- Axelos - IT Infrastructure Library (ITIL)
- ISACA – Cobit5
- PMI – PMBOK
- Committee of Sponsoring Organizations (COSO) - Integrated Framework
- The Open Group Architecture Framework (TOGAF) – Architecture Framework
- National Institute of Standards and Technology (NIST) – Technology Business Management
- National Governor’s Alliance (NGA) - Various
- Technology Business Management Council - Best Practices for Running IT as a Business
- Bicsi - Various

Summary

ICT organizations, specifically Enterprise IT, Broadcast, Healthcare, Service Providers/Carriers, Industrial and other organizations are at a tipping point. Whether the driver is cost containment, risk mitigation, network performance or remote management a baseline technology standard that can be adopted and utilized to manage their technology is now mission critical. By addressing the root cause issues with a suite of ICT Lifecycle Management Standards, TIA will drive global change management and improve technology's role in achieving organizational business objectives.