CTO Organization Reimagined:
A Compelling White Paper Proposal

1. Introduction

The Chief Technology Officer (CTO) organization is an essential component of a company's growth. With a strong track record in IT, many companies are confident in their ability to deliver exceptional results. However, some companies have expressed dissatisfaction with their current CTO organization, which has resulted in missed opportunities to win more work. This white paper presents a new type of CTO organizational structure that prioritizes the continuous development of the CTO team and the company's strategic capabilities, which can help companies achieve their full potential and drive growth.

2. Shift the Paradigm: A Strategic Focus on Winning, Client-Centric Solutions, and Solutions Architect Development

This white paper outlines a transformative approach to the CTO organization, focused on driving business success through continuous innovation, the development of a highly skilled and efficient Solutions Architect (SA) team, and the creation of tailored, client-centric solutions. By reimagining the CTO structure, this strategy emphasizes the importance of leveraging the company's core capabilities and aligning them with specific client needs to deliver solutions that drive measurable outcomes. Every member of the CTO organization is expected to possess core expertise as an SA, with key roles such as Lead SA and Supporting SA, ensuring the creation of customized solutions that meet client objectives. To support this shift, a comprehensive **SA Development Program** should be implemented, designed to nurture talent at all levels—from Junior to Associate, Senior, and Master—ensuring a steady pipeline of highly skilled architects ready to take on complex opportunities and deliver impactful results.

This proposal also emphasizes the integration of emerging technologies such as **Generative AI (GenAI)** to streamline solution development and proposal creation, enhancing the ability of SAs to deliver compelling, client-specific solutions without compromising security. Furthermore, the CTO organization should take the lead in developing **demonstrable use cases** for each strategic capability, showcasing these innovations to clients to solidify the company's position as a solutions leader.

By introducing a robust structure with specialized teams—**Solution Development**, **Solution Consulting**, **Technical Strategy**, and **Solution Innovation Lab (SIL) Operations and Support**—the organization will drive a seamless, client-focused approach that not only captures new opportunities but also builds on the success of existing ones. This vision includes a **Harvest Innovation Program** to incentivize the capture and development of groundbreaking ideas from across the company, ensuring that innovations are formalized into strategic capabilities and validated through practical use cases.

This reimagined CTO organization focuses on building a highly skilled team of solution architects who are empowered to lead priority opportunities, harness the latest technologies, and ensure that the company's offerings and capabilities are always aligned with client needs, setting the stage for long-term growth and success.

3. CTO Organization

The proposed CTO structure, illustrated in Figure 1, creates four functional teams within the CTO: Solution Development, Solution Consulting, Technical Strategy, and SIL Operations and Support.
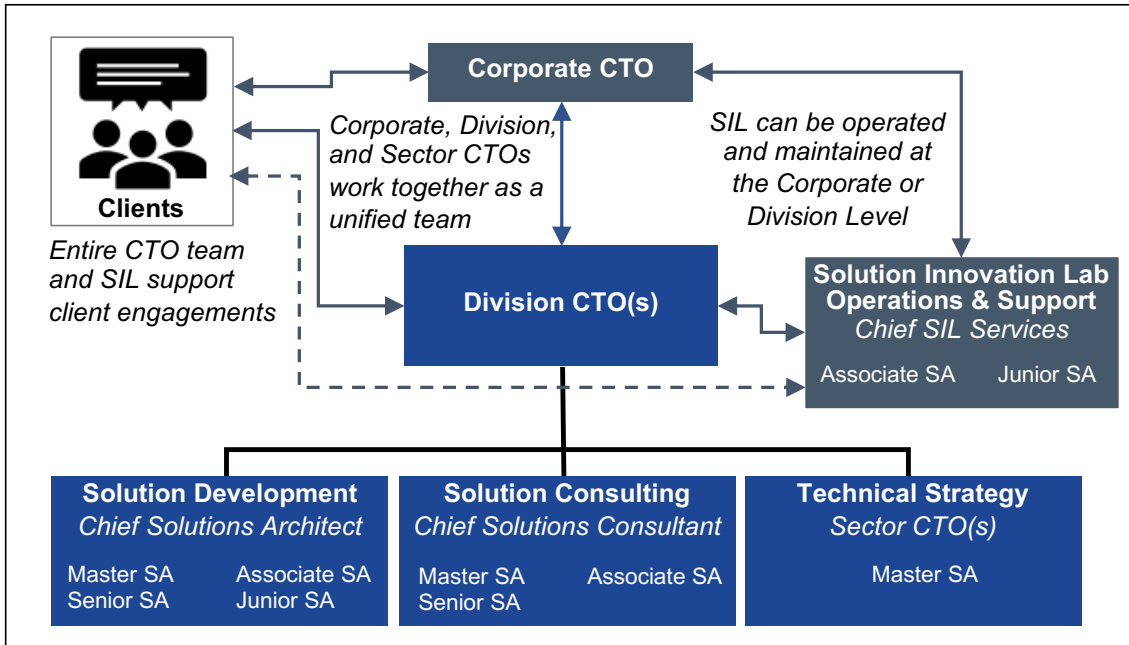

Figure 1. Proposed CTO Organization. *Empowering Innovation and Client Success: The New CTO Organization Drives Client-Centric Solutions and Long-Term Growth.*

1.1 Solution Development

The **Solution Development team** is composed of highly skilled **Solutions Architects (SAs)** who specialize in one or more practice areas, bringing deep expertise and technical knowledge to the table. These architects not only have specialized knowledge within their individual domains but also possess a comprehensive understanding of the company's broader **service offerings** and **strategic capabilities** across all **practice areas**. This broad perspective allows them to design and deliver solutions that leverage the company's full suite of capabilities, ensuring that every solution is tailored to meet the unique needs of clients while aligning with the company's overarching business objectives.

To further enhance the effectiveness and strategic alignment of this team, it is recommended that a **Chief Solutions Architect (CSA)** position be established to lead the Solution Development function. The CSA would play a pivotal role in setting the vision and direction for the team, ensuring that the development of solutions is in lockstep with the company/division's strategic goals and priorities. The CSA would also serve as the primary technical leader, responsible for overseeing the delivery of high-impact solutions and fostering innovation within the team.

In addition to leading the team, the CSA would assume the role of **Lead Solution Architect** for the company/division's most critical opportunities—specifically, the **#1 priority opportunity** identified in the Strategic Plan. This high-level involvement ensures the most important and complex opportunities receive the attention and expertise necessary to secure successful outcomes.

1.2   Solution Consulting

The **Solution Consulting team** consists of technologists specializing in specific practice areas, with expertise in developing and maintaining the company's strategic capabilities. These consultants play a key role in aligning the company's capabilities with client needs and market trends. To strengthen this function, it is recommended to create a **Chief Solution Consultant (CSC)** role to lead the team and oversee the development of strategic capabilities across the company's practice areas. The CSC would guide **Solution Consultants (SCs)**, with **SC leads** managing capabilities within their areas and ensuring alignment with service offerings.

SCs are responsible for identifying and creating demonstrable use cases for each strategic capability, developing these demonstrations in the **Solution Innovation Lab (SIL)** to support client engagements. In addition to these responsibilities, SCs take on the Supporting SA role for opportunities in their practice area, gaining hands-on experience by leading Task Areas within opportunities. This prepares SCs for advancement into Lead SA roles, where they can take on greater responsibility in solution development and client engagement.

1.3   Technical Strategy

In a large organization with Divisions and Sectors, **Division CTOs** are responsible for leading the technology strategy and execution within their division and contributing to the Division's overall Strategic Plan. Division CTOs typically oversee four key functional teams: Solution Development, Solution Consulting, Sector CTO, and SIL Operations and Support.

At the Sector level, **Sector CTOs** play a critical role in implementing the Division's strategy. As **Master-Level SAs**, they collaborate closely with Solution Development and Solution Consulting teams to ensure client-focused solutions. Sector CTOs engage with clients to understand their needs and challenges, translate these insights into actionable solutions, and assess program performance to mitigate risks and ensure success, particularly for recompete opportunities.

Sector CTOs also serve as **Lead SAs** for their sector's top priority opportunity and as **Supporting SAs** for the Division's highest-priority opportunities, working closely with the Chief Solutions Architect to ensure successful execution. This structure ensures alignment between the division's strategic goals and sector-specific needs, driving client success and business growth.

1.4   Solution Innovation Lab (SIL) Operations and Support

The **SIL** is a centralized, shared resource available to all Divisions and Sectors, but it must be managed at the Division level or higher to ensure **consistency**, **standardization**, and **security** across the lab environments. The lab serves as a critical platform for developing and demonstrating the company's strategic capabilities through practical use cases. These use cases showcase how the company's technologies and solutions can address client challenges, providing tangible proof points that support business development efforts.

To maintain the security, integrity, and functionality of the lab, a dedicated team is needed for the design, development, security, operations, and ongoing maintenance of the lab environments. This requires a team of technical experts with deep, hands-on experience in both lab operations and solution development, ensuring that the lab environments remain secure, up-to-date, and capable of supporting advanced technical demonstrations.

To provide effective leadership and oversight of this critical function, it is recommended to create a **Chief SIL Services** position. This role would be responsible for centralized management

of the SIL, ensuring alignment with the broader strategic goals of the organization and enabling cross-functional teams to leverage the lab in a structured, secure manner. The Chief SIL Services position would ensure the lab's resources are optimally allocated, maintain high standards of security and operation, and drive the lab's development in alignment with corporate priorities.

This centralized approach allows Solution Consultants (SCs) and other teams to use the SIL for creating detailed use cases that demonstrate the corporate's strategic capabilities. These use cases become valuable assets for business development and client engagement, enabling the company to showcase its innovative solutions and strengthen client relationships. By providing a consistent, secure environment for technical experimentation and solution development, the SIL can drive innovation, enhance solution delivery, and support the strategic growth initiatives.

4. Size the CTO Team

It is recommended to use **Jai's SA Resource Estimation** tool to accurately determine the number of Solutions Architects needed to support the opportunities outlined in the Strategic Plan. The tool takes into account several key factors, including the opportunity's priority, total contract value, role (prime or subcontractor), timing, and the specific skill sets required for each Solutions Architect (Lead SA or Supporting SA). By considering these variables, the tool provides precise resource estimates, ensuring that the right number of qualified SAs are allocated to meet the demands of the opportunity pipeline. This approach enhances planning, optimizes resource allocation, and aligns with the company's strategic goals, ensuring the organization is fully staffed to deliver successful outcomes across key initiatives.

5. Develop the CTO Team

The CTO should establish a **Solutions Architect Career Development Program** designed to assess current team members and outline clear advancement paths based on performance in both Supporting and Lead SA roles. This program should include defined SA skill levels—Junior, Associate, Senior, and Master—and incorporate a "left-seat, right-seat" training approach. In this model, an SA in a Supporting role shadows an experienced Lead SA on a project, then takes on the Lead SA role with the same experienced Lead SA shadowing them in a Supporting role.

The program should also provide a clear career path, allowing SAs to transition from Solution Development to Solution Consulting, then to Sector CTO, Division CTO, and ultimately to the corporate CTO position.

6. Assign Solutions Architects

It is crucial to assign SAs early in the Business Development lifecycle to ensure continuity and effective engagement throughout the opportunity's progression. Once an opportunity is qualified, a **Lead SA** and at least one **Supporting SA** should be assigned to the opportunity. This structure provides the necessary expertise and ensures that each opportunity is adequately supported from initial qualification through to proposal submission and beyond.

Having both a Lead SA and Supporting SA ensures a seamless transition between phases and consistent technical leadership. Lead SAs will take primary responsibility for driving the solution development, while Supporting SAs, who come from various parts of the CTO organization, including Solution Development, Solution Consulting, Sector CTOs, and SIL Operations and Support, will assist in specific areas based on their expertise. Supporting SAs play a key role in

contributing to the development of client-centric solutions, providing insights, and supporting the Lead SA in refining the solution to meet client needs.

To streamline resource management and improve planning, all qualified opportunities identified in the **Strategic Plan** should have assigned SAs. This assignment provides a clear roadmap for the SAs, outlining their responsibilities over the course of the year and helping leadership assess the resource allocation across the opportunity pipeline. It is vital to map out SA assignments in advance to ensure that resources are distributed efficiently and to identify any potential gaps in coverage.

For example, a Lead SA typically needs to commit 100% of their time to the opportunity in the months leading up to the Request for Proposal (RFP), through proposal development, and until it is submitted. Supporting SAs will have less intensive time commitments but should still be clearly allocated to specific task areas within the opportunity.

To effectively manage these assignments and avoid overloading any individual SA, it is recommended to leverage the company's **Customer Relationship Management (CRM)** tool, such as Salesforce, to track and manage SA assignments across the pipeline. Using a CRM system enables efficient assignment management, provides visibility into resource allocation, and offers powerful dashboarding capabilities to monitor progress. With the CRM tool, leadership can quickly identify any imbalances in SA assignments, ensuring that priority opportunities are properly staffed and that SAs are not overburdened. This approach helps maintain a balanced workload for SAs and improves the overall success rate of opportunities by aligning the right resources with the right opportunities at the right time.

7. Implement Generative AI (GenAI)

The implementation of **GenAI** is proposed as a solution to address a key challenge: the ability of SAs to write compelling proposals. By integrating GenAI, SAs can leverage this technology to improve proposal writing without compromising the security of the company's brand or client data. GenAI can also help tailor the company's strategic capabilities to align with a client's specific environment, challenges, and key concerns. This enables the creation of client-centric solutions that clearly demonstrate how their innovative capabilities meet the client's unique needs and objectives.

To prioritize security, it is recommended to first implement this capability in an offline environment, such as deploying a large language model (LLM) like PrivateGPT on laptops or within a private, isolated network with no internet access. The focus should be on enabling SAs to begin using this technology to improve their solution and proposal development processes, which is more important than the underlying technology itself. Once a secure GenAI solution is selected for company-wide use, SAs will be equipped on how to fully leverage the capability, further enhancing their effectiveness and efficiency, ultimately driving more successful outcomes for the company.

With GenAI, SAs can concentrate on the strategic aspects of the solution while the tool helps generate high-quality content. However, it's crucial that SAs do not rely solely on the generated content. They must review and refine it to ensure it accurately reflects the key elements of the solution. This process results in content that clearly and concisely highlights the solution's strengths, features, benefits, as well as associated risks and mitigations, ultimately enhancing the overall quality of proposals.

8. Harvest Innovation

This white paper also recommends the creation of a **Harvest Innovation Program** to capture and promote innovative approaches across various programs. The Program Teams possess exceptional talent and are delivering impressive results, and these innovations should be systematically captured and transformed into strategic capabilities. Each innovation can be linked back to the original program as a proof point.

The program would incentivize participation by offering cash prizes and other rewards for winning nominations. Annually, the CTO would solicit innovations from the program teams, with leaders across the company—including Division and Sector CTOs, Chief SAs, Chief SCs, and other division and sector leaders—voting to select the most impactful innovations. Once selected, the CTO's SC team would work to formalize these innovations into strategic capabilities and collaborate with SIL Support Services team to develop demonstrable use cases.

This approach ensures the company maintains a continuous innovation cycle, where innovative ideas are not only recognized but also utilized to develop new strategic capabilities. Each innovation is validated through the program where it originated, ensuring real-world application and impact.

9. Summary

This white paper proposes a reimagined CTO organizational structure designed to foster continuous innovation and drive growth by prioritizing the development of strategic capabilities and the creation of client-centric solutions. The new structure focuses on empowering SAs to lead the creation of customized solutions tailored to client needs, using a formal SA development program, and leveraging emerging technologies such as **GenAI** to improve proposal writing. Key functional teams within the CTO organization include Solution Development, Solution Consulting, Technical Strategy, and SIL Operations and Support, with each team playing a crucial role in delivering strategic solutions. Additionally, the paper suggests establishing a **Harvest Innovation Program** to capture and formalize innovations across the organization, incentivizing program teams to contribute their ideas, which are then developed into strategic capabilities and showcased through demonstrable use cases. The proposed structure also includes a robust career development path for SAs, with clear advancement opportunities and skill-building programs, ensuring a pipeline of talent to support future growth. By aligning the CTO organization's efforts with client needs and the company's strategic goals, this approach aims to optimize business outcomes, drive innovation, and position the company for long-term success.