



## **Sterling AI Technology Brief**

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## ABOUT STERLING

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In this AI age, as at any time in IT history, the best products and the best practices make for the best *solutions*. For over 25 years, Sterling has delivered the best IT solutions to public and private-sector organizations. Whether we're serving federal, state and local government entities; schools or universities; major corporations; or any enterprise — we simplify your solutioning process by being a single point of contact, sourcing the best software and hardware from our 6,600+ OEM partners, bringing you the brands and services you seek, with rigorous compliance to supply-chain security.

Sterling's specialized engineers can specify your systems and deploy to your frontlines to perform a gamut of Managed or Professional Services. We optimize your operations with our expertise in AI, automation, high-performance computing, virtualization, connectivity, cloud infrastructure, cybersecurity, and beyond.

As an award-winning VAR+ (Value-Added Reseller Plus), Sterling has earned certifications in the most advanced technologies and is privileged to partner with top IT leaders like NVIDIA, Cisco, Dell, HPE, and more. Committed to delivering world-class AI solutions, Sterling became one of the first NVIDIA-certified partners and won the NVIDIA 2024 Public Sector Partner of the Year award.

Using the transformational technologies of generative AI and machine learning, Sterling offers you the revolutionary capabilities of Digital Personalities. These human-like virtual agents augment your workforce and automate processes while literally putting a face on digital interactions.

Breaking further ground with AI, Sterling has introduced *SkyWave™*, harnessing the power of NVIDIA's ARC-OTA technology — an ultra-sophisticated platform that researchers and developers of all kinds use to build and prototype their own innovative solutions on 5G and 6G frameworks.

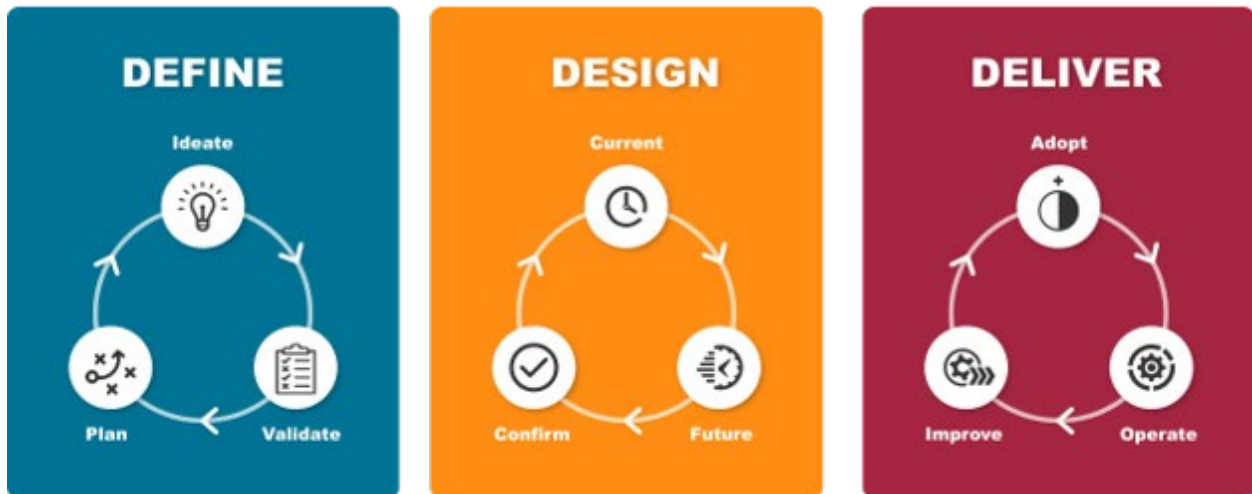
### Sterling at a Glance

- Cisco Gold and CX Partner
- Dell Technologies Federal Services Partner of the Year: 2023
- Dell Technologies Federal Partner of the Year: 2014, 2018, 2021, 2022, 2024
- Dell Technologies First Choice Services Partner of the Year: 2022
- Dell Technologies Titanium Partner
- Druva Public Sector Partner of the Year: 2024
- Intel Solution Integrator Growth Partner of the Year: 2024
- NVIDIA DGX Authorized Reseller
- NVIDIA Partner Network (NPN) Public Sector Partner of the Year: 2024
- SolarWinds Public Sector Excellence in Enablement: 2023
- SolarWinds Federal Partner of the Year: 2022, 2024
- VMware Federal Investment Partner of the Year: 2023
- VMware Preferred Services Partner: 2022
- VMware Master Services Competency, Data Center Virtualization
- VMware Master Services Competency, Network Virtualization
- CRN MSP 500 (Elite 150): 2018, 2019, 2021, 2022, 2023
- CRN Solutions Provider 500: Top 60 2018 - 2024
- CRN Tech Elite 250: 2011 - 2024
- CRN Triple Crown 2024 and CRN Fast Growth awardee
- ESGR Pro-Patria: 2024
- ESGR Above and Beyond: 2024

- Northrop Grumman Supplier Performance Excellence Award: 2024
- Supplier Awards from Lockheed Martin, Boeing, and Northrop Grumman
- Technology Advice's Top Hybrid Solution Providers (HSP 250): 2024
- Washington Technology Top 100 Government Contractors list 2020, 2023, 2024
- ISO 9001:2015 Quality Management System Certified
- Open Trusted Technology Provider: O-TTPS v1.1.1 (ISO/IEC 20243-2018) — Mitigating maliciously tainted and counterfeit product
- Women-Owned Small Business and Woman Business Enterprise certifications by National Women Business Owners Corporation

### **STERLING'S PROCESS APPROACH: SCALE**

Sterling uses an all-encompassing approach to how we work with our customers. We call this the *Sterling Consumption Adoption Lifecycle for Enterprise*, or SCALE. With many of our vendors moving from a licensing/product selling model to a Subscription-as-a-Service (SaaS) model, we found that our customers were struggling with operating models, policies, and purchasing mechanisms. To alleviate this confusion, Sterling simplified the process, implementing a '3D model' of project phases: Define, Design, Deliver.



- **The Define Phase**  
The Define phase of the SCALE process is focused on three things. In the Ideate stage, we hypothesize on solutions to address a customer's business, IT problems, and goals. In the Validate stage, we meet with the customer to ensure we are aligned on the solutions. In the Plan stage, we adopt a Joint Engagement Plan (JEP), documenting how Sterling and the customer will work together to achieve the goals.
- **The Design Phase**  
The Design phase of the SCALE process is focused on three things. In the Current stage, we perform discovery to gather information about the customer's system(s). In the Future stage, we use the information discovered to build a future-state architecture and solution. In the Confirm stage, we document the solution in the form of a business case and solution proposal that addresses the customer's business, IT goals, and objectives.

- **The Deliver Phase**

The Deliver phase of the SCALE process is focused on three things. Using the deliverables created in the previous phase, we operationalize the solutioned environment. Delivery can take many forms, large or small, but the process is still the same. We implement and execute in a collaborative environment using industry-standard tools, such as Atlassian Confluence, Atlassian Jira, Microsoft Teams, and Zoom for Government).

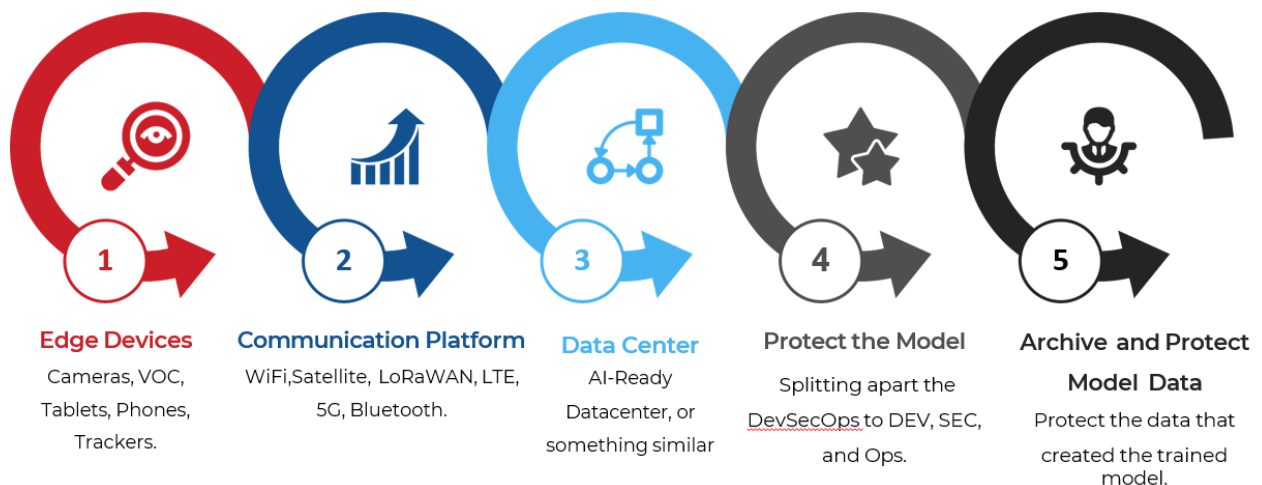
## STERLING AI SOLUTIONS

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### AI Edge to Rest

During your AI journey and deployment path, it is imperative to account for the many pillars in the process, ranging from edge device to model security and everything in between. Edge devices are crucial data-collection points allowing for AI processing where it matters most. They rely on sophisticated networks that ensure reliable data transmission while managing bandwidth and latency requirements. AI-ready data centers equipped with specialized hardware accelerators and optimized storage systems deliver the computational power necessary for model training and complex analytics.

The protection of your AI systems demands a comprehensive DevSecOps approach: development teams focusing on model accuracy and optimization while security teams defend against adversarial attacks and vulnerabilities, and operations teams ensure seamless deployment and scaling. Protection needs to extend to the training-data powering these AI models, as they potentially include intellectual property and competitive advantage. Sterling assists you in implementing data-governance frameworks, encryption protocols, and access controls to safeguard your datasets and archive your model.



### AI Data Center

Data centers are the backbone of modern computing, providing the infrastructure and resources needed to support a wide range of applications and services. As the use of AI becomes increasingly prevalent, it is important that data centers are designed and optimized to support AI workloads. Sterling provides solutions to design and optimize your data center to support the demands of AI workloads, including

specialized hardware and software, large-scale data processing and storage, and secure networking and compliance controls.

Sterling's approach encompasses the deployment of specialized hardware, such as high-performance GPUs to accelerate complex computations essential for AI processing. We provide advanced software solutions, including AI-specific frameworks and tools, to streamline the development and execution of AI models. AI is data-intensive, so we architect systems that handle massive datasets by efficiently incorporating data pipelines and distributed computing capabilities. We then design high-bandwidth, low-latency storage and network solutions to manage the data required for AI training and inference. To address the significant power demands and heat generation associated with AI hardware, we integrate advanced cooling solutions and power-management systems. This ensures optimal performance and energy efficiency.

## Chatbots/Virtual Assistants

Sterling's chatbots (also referred to as *virtual assistants*) can significantly enhance customer and employee experiences by providing immediate, personalized, and efficient interactions. These intelligent systems analyze user input in real time, understanding natural language, recognizing patterns, and interpreting complex queries. Organizations can automate customer-service tasks, streamline operations, and unlock new communication capabilities. By leveraging machine learning and advanced algorithms, virtual assistants and chatbots transform conversational data into actionable intelligence.

### Uses and benefits of chatbots/virtual assistants

- **Customer-support automation:** Chatbots/virtual assistants use Natural Language Processing (NLP) and AI to automatically handle customer inquiries, resolving issues promptly and accurately. This improves customer satisfaction and frees human agents to focus on other tasks.
- **Personalized user experience:** Chatbots/virtual assistants tailor interactions based on user data, preferences, and behavior, providing customized recommendations and assistance that enhance user engagement and loyalty. For example, a human-resources chatbot can access an employee's payroll-benefits history and provide customized support.
- **24/7 availability:** Chatbots/virtual assistants offer around-the-clock support, ensuring that customers and employees can access information and assistance at any time, which improves service accessibility and convenience.
- **Process automation:** Automate routine tasks such as appointment scheduling, order processing, and data entry, increasing operational efficiency and reducing the likelihood of human error.
- **Data insights and decision-making:** By analyzing interactions and feedback, chatbots/virtual assistants provide valuable insights into customer needs and preferences. This helps organizations make informed, data-driven decisions and refine their strategies.
- **Scalability:** Handle multiple interactions simultaneously without compromising performance, allowing businesses to scale customer-service efforts without proportional increases in cost.
- **Multilingual support:** Chatbots/virtual assistants can communicate in multiple languages, breaking down cultural barriers and expanding an enterprise's inclusivity and global reach.
- **Integration with other systems:** Chatbots/virtual assistants can be integrated with CRMs, databases, and other enterprise tools, ensuring seamless information flow, and improving overall productivity.

*Technologies: AWS Chatbot, NVIDIA Chat with RTX, NVIDIA Conversational AI*

## Computer Vision

Sterling can provide computer-vision solutions that extract insights from images and video and can enhance the end-user's experience in diverse industries. These solutions can analyze visual data in real-time, identifying objects, recognizing patterns, and interpreting complex scenes. This enables our clients to automate visual inspection tasks, enhance security systems, improve quality control processes, and unlock new capabilities. By leveraging expertise in machine learning and advanced algorithms, Sterling transforms visual data into actionable intelligence.

### Uses and benefits of computer vision

- **Predictive maintenance:** Computer vision uses advanced image analysis and machine-learning algorithms to detect early signs of equipment wear or malfunction by processing visual data from cameras or sensors, allowing you to anticipate and address potential issues before they lead to breakdowns and failures.
- **Quality control and inspection:** Computer vision uses AI and image-processing techniques to automatically detect defects, inconsistencies, or deviations from specifications in products or components and improve efficiency and reliability to the process.
- **Supply-chain optimization:** Computer vision utilizes image recognition and AI to enhance visibility, efficiency, and accuracy throughout the supply-chain process with a goal to improve overall efficiency.
- **Safety and security:** Computer vision leverages image and video-analysis techniques to enhance protection and risk mitigation in various environments, enabling more effective surveillance and access control with a goal of reducing incident prevention.
- **Predictive analytics:** Computer vision combines image-processing techniques with machine learning to forecast future trends, behaviors, and/or outcomes based on visual-data analysis, facilitating proactive decision-making and strategic planning.
- **Data insights and decision-making:** Computer vision extracts information and actionable intelligence from visual data, using image analysis and machine learning to uncover hidden insights, helping you gain a deeper understanding of a situation and make data-driven decisions.

*Technologies: Chooch AI, IronYUN, NVIDIA DeepStream, NVIDIA Holoscan, NVIDIA NIM, NVIDIA Omniverse, Roboflow*

## Digital Twins

Digital twins are virtual replicas of physical systems, processes, or products that enable organizations to simulate, analyze, and optimize real-world scenarios in a digital environment. Using cutting-edge technology such as NVIDIA Omniverse, Sterling can integrate a wide range of models, drawings, and building blocks into a digital twin of your warehouse, product, or location.

### Uses and benefits of digital twins

- **Predictive maintenance:** Digital twins equipped with computer vision can monitor equipment in real-time, detecting early signs of wear or malfunction. By analyzing visual data from cameras and sensors, organizations can anticipate potential issues before they lead to breakdowns, reducing downtime and maintenance costs.
- **Quality control and inspection:** Digital twins enhance product quality by automatically detecting defects or deviations from specifications. Integrating AI and image processing within digital twins

allows for continuous monitoring and improvement of manufacturing processes, increasing efficiency and reliability.

- **Safety and security:** An AI-equipped digital twin enhances protection and risk mitigation in various environments. By analyzing movement of items and personnel, digital twins can simulate systems and identify hazards, contributing to incident prevention and a safer workplace.
- **Rapid prototyping:** By building new products digitally, organizations can rapidly test and prototype design iterations, enabling organizations to stay ahead in competitive markets.
- **Data insights and decision-making:** Digital twins extract valuable insights through image analysis and machine learning, helping organizations make data-driven decisions and gain a deeper understanding of their operations.

*Technologies: NVIDIA Digital Twins, NVIDIA Omniverse, NVIDIA OVX, Simcenter 3D, Teamcenter X*

## Large Language Models (LLMs) with Retrieval Augmented Generation (RAG)

Sterling offers advanced language model solutions that enhance customer and employee experiences across various industries. These solutions process and understand vast amounts of textual data in real time, generating insights, answering complex queries, and automating language-related tasks. This empowers our clients to streamline operations, improve customer engagement, optimize decision-making processes, and unlock new capabilities. By leveraging expertise in machine learning and cutting-edge algorithms, we transform text into knowledge.

### Uses and benefits of LLMs with RAG

- **Knowledge management and retrieval:** LLMs with RAG utilize advanced Natural Language Processing (NLP) and retrieval techniques to access and summarize information from large databases or documents, enabling efficient knowledge management and quick information retrieval.
- **Customer-support enhancement:** By integrating LLMs with RAG into customer service platforms, businesses can provide instant, accurate responses to inquiries, improving customer satisfaction and reducing response times.
- **Content creation and personalization:** These models can generate high-quality, tailored content such as reports, articles, or marketing materials by leveraging existing data and user preferences, enhancing engagement and relevance.
- **Compliance and risk analysis:** LLMs with RAG analyze textual data to identify compliance issues, monitor potential risks, and ensure adherence to regulations, thereby helping to safeguard an organization against legal and financial pitfalls.
- **Decision support and analytics:** Combining language understanding with data retrieval, these models provide insights and forecasts based on textual data analysis, facilitating proactive decision-making and strategic planning.
- **Multilingual support and translation:** LLMs with RAG offer real-time translation and language support, breaking down communication barriers and enabling global outreach.

*Technologies: Frontend UI development; NVIDIA Chat with RTX, NVIDIA DGX and HGX; OpenAI GPT; Python, LangChain, and LlamaIndex software development; Vector data bases and libraries*



## Security

Sterling implements a Zero Trust security model, continuously monitoring and authenticating every access-point, user, and transaction. We follow U.S. Cybersecurity and Infrastructure Security Agency (CISA) best practices, employing encryption, role-based access controls, and secure-cloud configurations to safeguard institutional systems. Regular audits and Sterling's Project Risk Register provide transparency and ongoing risk management.

### Uses and benefits of security

- **Continuous security testing:** Sterling's AI systems undergo continuous penetration testing to identify and fix vulnerabilities. We deploy multilayered security strategies, including firewalls, secure API gateways, and edge computing to protect against threats. Our secure deployment works to ensure that institutional AI applications remain resilient to cyberattacks, maintaining operational integrity.
- **Confidential/private information protection:** Sterling ensures that all AI solutions developed comply with existing industry regulations (for example, HIPAA in healthcare), as well as meet stringent ethical standards. Sterling and its AI OEM partners have deep and extensive experience in developing IT solutions that align with federal security regulations and frameworks.
- **Fraud detection:** Sterling's AI solutions and capabilities can bolster and speed the fraud-detection process. Technology (such as NVIDIA ACE) can be tailored and deployed to spot anomalies within records or problematic patterns across records that may be evidence of deceptive activity or system abuse. Our engineers develop AI mechanisms of fraud prevention, potentially averting significant human-resource efforts and monetary loss later.
- **Real-time analysis:** AI offers the capability to parse vast amounts of structured and unstructured data in real time, providing actionable insights that can optimize resource allocation, predict trends, and influence outcomes. Through cloud-based data lakes and advanced AI tools, Sterling's solutions empower organizations to perform predictive analytics, helping identify trends that can influence decisions and action. This kind of real-time data processing also enables organizations to be more agile and responsive to changing needs.

*Technologies: Cloudflare, CrowdStrike, Darktrace, Druva, Fortinet, NVIDIA Morpheus, Palo Alto, SolarWinds, Splunk, Symantec*

## Natural Language Processing (NLP)

Natural Language Processing provides powerful solutions for extracting insights from text-based data, unlocking new capabilities across industries. NLP enables machines to understand, interpret, and generate human language, offering opportunities to automate tasks like content generation, sentiment analysis, and language translation. Through machine learning and advanced algorithms, NLP transforms unstructured text data into actionable insights, enhances your decision-making, and streamlines workflows.

### Uses and benefits of Natural Language Processing

- **Customer-support automation:** NLP enables chatbots and virtual assistants to understand and respond to customer queries, improving response times and user satisfaction.
- **Sentiment analysis:** NLP helps businesses gauge customer attitudes and emotional reactions by analyzing social media posts, reviews, and feedback, enabling more informed marketing and customer-service strategies.



- **Content summarization:** NLP tools can automatically summarize large volumes of text, making it easier for users to extract key information from documents or reports.
- **Language translation:** NLP powers real-time translation services, enabling cross-cultural communication and expanding global business reach.
- **Text-based data insights:** NLP converts raw text into structured data, uncovering patterns and trends that aid in data-driven decision-making.

## Sterling Digital Personalities (DPS)

Sterling works with advanced AI technologies that enable the creation of animated “Digital Personalities” — human-like, user-friendly AI entities designed to enhance an enterprise’s digital interactions. Our focus is not on replacing human workers but on complementing them by providing a scalable, always-on, personalized service that aligns with the mission of an organization to improve delivery and outcomes. Our Digital Personalities can help with functions such as data intake, issue analysis, scheduling, and overall engagement.

### Uses and benefits of Digital Personalities

- **Empathetic engagement:** Digital Personalities are not only analytically intelligent but emotionally intelligent, dispensing and collecting information, as well as simulating empathy. As virtual healthcare assistants, for instance, DPs actively listen and can provide personalized care recommendations, help assess symptoms, and aid in navigating healthcare processes. These interactions foster a patient-centered approach, increasing end-user satisfaction and adherence to treatment plans.
- **Workforce augmentation:** Our AI Digital Personalities solutions handle diverse routine tasks, like appointment scheduling, ‘reference-desk’ inquiries, data admin, end-user issue and information recording, and other automatable interactions. This alleviates the work burden on human staff, allowing them to focus on *non*-automatable duties.
- **Phone:** Our Digital Personalities through advanced AI solutions and through a phone service can provide a personalized, emotional intelligent interaction that handle everything from initial greetings to complex problem-solving.
- **Kiosks:** Digital Personalities can be used as virtual receptionists at kiosks throughout a facility, alleviating lines at front desks, handling information-booth or check-in basics, and optimizing social distancing in contexts which require that.
- **Training:** Digital Personalities can provide interactive education, available 24/7 at end-users’ online convenience. As virtual trainers or coaches, DPs not only communicate lessons but listen and respond to learners’ questions in real time. DPs can draw on data sets designated by the enterprise so that instruction remains on topic.

*Technologies: Sterling Digital Personalities, Kore.ai, NVIDIA ACE Digital Persons, NVIDIA Audio2Face, UneeQ Digital Humans, Bland.ai*

## Sterling Cloud

Sterling partners with customers to identify the cloud solutions that best align with their current needs and future goals. We support it all, from your first steps on the cloud journey to multi-cloud solutions that increase reliability, resiliency, and durability. Our approach involves a thorough assessment of client culture, infrastructure, and cloud readiness, looking at the viability of cloud adoption or expansion. After

gathering and analyzing relevant data about your environment, we will provide a list of cloud solutions that address your requirements. Sterling helps customers navigate through challenging situations involving technical debt and shadow IT towards a more optimized and future-ready cloud infrastructure.

### Uses and benefits of cloud

- **Cloud migration:** Moving organizational data, applications, and other digital assets from on-premises servers to a public cloud or from one cloud provider to another can help enterprises reduce IT costs, improve performance, and gain greater accessibility to data for end-users, while gaining greater storage durability and resiliency. Sterling can help you make the move, as well as determine what to keep local and what to modernize and migrate.
- **Disaster recovery:** Backing up data and applications to a cloud environment is the best recourse for maintaining business continuity. With cloud disaster recovery (CDR), enterprises can retain access to their invaluable digital assets.
- **AI solutions:** From Generative AI utilizing Large Language Models to smaller language models with built-for-use solutions, the cloud holds the AI tools your enterprise needs to transform agilely and thrive.
- **Microsoft modernization:** Utilizing Microsoft Office, Dynamix, Entra Id, and more, you can access hybrid solutions that fit your needs locally, while also increasing the resiliency and durability of your data, access, and usability of your key software, keeping your organization in working order.
- **Cost and billing management:** Sterling takes the difficulty out of understanding, adjusting, and managing cloud pricing. We help our customers turn services on when needed and off when not. Sterling also offers centralized billing so that engineers get usage reports showing them what is generating costs.

### Technologies:

- *Mobility: Amazon Web Services (AWS) Cloud Migration, Microsoft Azure Migrate, Device42, Zerto*
- *Workplace tools: Microsoft Entra ID, Intune, Office365; Tanium*
- *Cloud-service providers: AWS, Google Cloud (GCP), Microsoft Azure, Oracle*

## HARDWARE AND SOFTWARE

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At Sterling, we view ourselves as more than an IT solutions provider — we are your partner in digital transformation. Through our collaboration, we strive to redefine your IT capabilities, optimizing them for efficiency, reliability, and innovation. Our expert team works with you, harnessing the power of advanced technology to unlock your organization's full potential.

Sterling offers a comprehensive range of AI hardware and software solutions. Our unique position empowers us to look at both new technology and industry standards to support your AI journey. Sterling's solutions include compute, servers, networking, 5G/6G and GPU technology and are scoped to result in increased efficiencies and operational readiness. Our industry experience enables us to navigate the intricate security landscape while delivering demanded performance. Sterling has developed and is continuously adding to our AI ecosystem, which empowers us to deliver innovative technology and relevant solutions to our customer base. We also are focused on integrating the next AI solutions into existing infrastructure. This end-to-end approach not only streamlines procurement and implementation processes but also ensures long-term value through our ongoing support, training, and system-optimization services.

*Technologies: In our mission to provide the best IT solutions, Sterling has built an extensive network of over 6,600+ partners, including AMD, CoolIT, Cisco, Dell, HPE, Intel, NVIDIA, Runa.ai, Siemens, VAST, and WEKA. This diverse ecosystem of vendors and solution providers allows us to offer a wide range of services, ensuring we can meet every IT need.*

## **NVIDIA DGX Authorized Reseller**

Sterling is an authorized DGX reseller, able to deploy and manage the latest NVIDIA systems. NVIDIA DGX is the standard for enterprise AI, designed to accelerate the AI data center and streamline AI workloads. Built from the ground up for enterprise AI, the DGX platform combines the best of NVIDIA software, infrastructure, and expertise in AI development solutions. The platform's integration of NVIDIA AI Enterprise software provides access to secure version-controlled open-source models, containers, and workflows that are fully supported by NVIDIA.

## **ARC-OTA, SKYWAVE, AND 5G/6G**

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### **NVIDIA ARC-OTA**

NVIDIA's ARC-OTA (Aerial RAN CoLab Over-the-Air) is a developer launchpad that will accelerate innovations in advanced wireless communications with a focus on easing onboarding and algorithm development. It is the first fully programmable 5G and 6G network research sandbox, enabling researchers to rapidly simulate, prototype, and benchmark innovative software deployed through over-the-air networks. The ARC-OTA platform enables algorithm design for new baseband technologies in the 6G ecosystem, including terahertz (THz) band communications, very-large-scale antenna arrays, reconfigurable intelligent surfaces, digital beamforming, spectrum sharing, and the Internet of Things (IoT).

### **Product highlights**

- Wideband, real-time platform to replace existing narrow-band, non-real-time systems
- Full-featured platform for NG wireless evolution
- C/C++ programmable from the physical layer through to the Core Node (CN)
- Quick network onboarding and algorithm development in real-time networks
- Accelerated AI experimentation in wireless RAN workloads
- A pipeline for data collection, storage, and parsing using 3GPP schema for wireless communication

*Technologies: Dell, Foxconn, NVIDIA, SuperMicro, VIAVI*

### **SkyWave™**

Sterling's SkyWave™ is a developer private cloud service for NVIDIA's ARC-OTA (Aerial RAN CoLab-Over-the-Air) platform. With SkyWave, researchers and developers can quickly leverage the advanced wireless network testbed. SkyWave is built on design principles that prioritize adaptability, scalability, and customization, offering a solution that fits your needs, using enterprise COTS products instead of proprietary systems, while allowing for both complex and simplified configurations.

This private cloud service provides the following:

- Customer onboarding
- Program management

- Cell site planning
- Enterprise-grade compute, network, and storage using Dell technology
- Hardware and software procurement
- Flexible consumption pricing
- Deployment, configuration and testing at the end-user site
- Technical support
- Managed Services

Sterling's SkyWave support models include deployment and installation services, resident support with a full-time on-site engineer for up to a year, hybrid support offering 500 hours of remote assistance and four on-site visits annually, and a self-support option with 80 hours of team training. Additionally, we provide Skywave MSP for Managed Services, ensuring comprehensive coverage for all customer needs.

## 5G/6G Connectivity Capabilities

Sterling has established partnerships with major wireless providers to acquire and integrate both public and private 4G LTE and 5G/6G networks. We also offer comprehensive Client Services including issuing SIM cards, preconfiguring devices, installation, asset tagging, warehousing, and shipping of complete or separate units.

*Technologies: AT&T, Athonet (HPE), Cradlepoint, Cisco, Dell, Ericsson, Granite Networks, HPE, Juniper, Netgear, Nokia, NVIDIA, Qualcomm, Sierra, and Verizon*

## STERLING PROFESSIONAL SERVICES

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### AI Readiness

Sterling's forward-looking embrace of artificial intelligence led to our being the first certified company with NVIDIA. We believe that AI is no longer an option but a necessity for enterprises seeking to gain or retain a competitive edge. Our AI Readiness and AI Journey services are designed to guide customers through AI adoption and deployment. We assess our customers' technological infrastructure, data quality, and organizational culture to determine their AI readiness. Our team then develops a customized roadmap that outlines the steps needed to prepare for and implement an AI solution. This journey involves not just technology but also focuses on workforce skills. Sterling provides end-to-end support, from use-case development and selecting appropriate AI technologies to implementation, monitoring, and continuous improvement.

- **Data assessments:** Our process evaluates the quality, quantity, and accessibility of our customer's data assets. We identify existing data silos and integration challenges that may impact AI solutions. We analyze data-storage and retrieval systems to determine their suitability for AI workloads and evaluate data-security measures and privacy compliance.
- **Infrastructure assessments:** Our process evaluates current computing resources, including CPU, GPU, and memory capabilities with the goal of determining your readiness for AI workloads.
- **Network assessments:** Our process focuses on evaluating current network bandwidth and latency to ensure it can support AI workloads and data-transfer requirements. We assess network-security measures to protect AI systems and data.

- Skills assessments: We review our customer's IT team, assessing their data-science and AI skill levels. We identify skill gaps and determine the specific training needed to support your AI initiatives.
- AI roadmap: Our roadmap-development process begins by aligning the customer's AI initiatives with their specific business objectives. We work to identify use-cases for AI implementation. We then develop a phased approach to your AI adoption, creating a realistic timeline for data development, infrastructure upgrades, AI development, and skill development.

## Training and Optimization

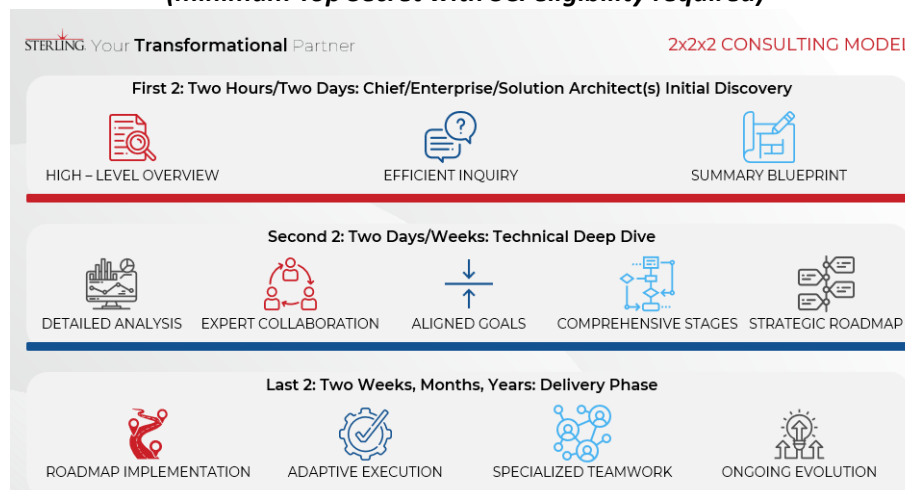
Sterling offers professional services for training and optimizing AI models by working with your organization to develop, fine-tune, and deploy custom AI solutions. This process begins with an assessment of your specific needs, data assets, and existing infrastructure. Sterling will then design and implement tailored AI models, utilizing techniques to ensure optimal performance. During the development cycle we will focus on data preprocessing, feature engineering, model selection, hyperparameter tuning, and cross-validation to enhance model accuracy and efficiency. We also address critical aspects such as bias mitigation, model interpretability, and scalability. Post-deployment, professional services include ongoing monitoring, performance evaluation, and iterative improvements to maintain the model's effectiveness as new data becomes available or business requirements evolve.

## Consulting

Sterling offers comprehensive consulting and residency services designed to empower your organization with tailored IT solutions and dedicated expertise. Our consulting services encompass thorough assessments of your current IT infrastructure, identification of growth opportunities, and development of strategic plans aligned with your business objectives. Our Residency Services bring skilled IT professionals directly into your team, providing flexible long-term support and extensive technology coverage to meet your evolving needs. We pride ourselves on our collaborative approach, ensuring seamless integration of innovative IT solutions that enhance your organization's resilience and innovation capabilities.

The following is an example of an actual Sterling consulting engagement for an (undisclosable) DoD program:

**Diagram of Sterling's long-term engagement with (undisclosable) DoD program  
(minimum Top Secret with SCI eligibility required)**



This (undisclosable) program began in 2015 and is based on Sterling’s earlier experiences with the same federal agency since 2008. Sterling has designed, developed, and managed enterprise services for the program’s latest Intelligence Platform. What started as the first tier of Defense in Depth/Zero Trust — Identity, Credential, and Access Management (ICAM) — has evolved to Sterling’s staff holding positions of leadership and senior-level engineering expertise within the Enterprise Services (ES) aspect of the platform. We have integrated and worked directly with all FSI-based Mission Software and Corporations to make this program thrive.

***Overview of Sterling’s technologies within the DOD contract:***

Dell servers and storage	VMware (most products)	Cisco integrations
GovCloud-AWS, C2S and S-C2S	SailPoint Identity IQ	Quest Authentication Services
OneIM Recovery Manager for Active Directory (AD)	OneIM Access Manager	Microsoft SQL
Elasticsearch/Kibana	NoSQL/MongoDB	PostgreSQL
Atlassian Jira/Jira Service/Confluence	Eracent	HBSS

***Overview of Sterling’s skills on the DOD contract:***

Enterprise and solution architecture	Security and compliance	Identity and access management (IAM)
NIST 800-53/ICD 503/CNSSI 1253	Training development and delivery	Business continuity and disaster recovery (DR)
Systems and cloud engineering	DevOps/DevSecOps	Automated test framework (ATF)
Defense in Depth/Zero Trust	Relational databases (SQL)	NoSQL database technologies
Data and analytics support	Advanced networking	Privileged access
Credential management	Identity, credential and access management (ICAM); Security Assertion and Markup Language (SAML) and Open Authorization (OAuth)	Cryptography and public key infrastructure (PKI)
Multi-factor authentication (MFA)	Security information and event management (SIEM)	Host-based security
Cross-domain (patents on SmartXD)	Infrastructure as code (IaC)	Authorization to Operate (ATO)/continuous Authorization to Operate (cATO)

**Sterling staffing for (undisclosable) DOD agency:**

**Lead Technical Architect** — B.B. is the lead technical advisor and manages the development efforts and staff for the program’s Enterprise Services (ES). His duties include working with federal government agency management to plan and design the future state of the program’s platform as well as guiding the development of new capabilities and sustainment on the current platform. B.B. is a professional with 11 years of program experience, a gifted developer and systems programmer, and excels at holistic Technical Architecture.

**Chief Technical Architect/Integration Lead/Identity and Access Management Lead** — S.M. is the visionary development lead for the Identity Management and Governance platform in use for this DOD program and has served with it since 2008. His other roles have included Integration Team Leader, guiding external third parties to correct use of the Enterprise Services portfolio of systems. In these roles, S.M. brought his unique insight and passion to the delivery — achieving exceptional results and building strong relationships across the broader program. US Coast Guard Veteran.

**Lead Developer** — J.W. is the lead developer for the program team. He is mentor for all development projects and developers, an expert at automation, agile methodology, and platform engineering to create Continuous Integration/Continuous Delivery (CI/CD) DevOps Pipelines using modern cloud and on-premises based toolsets. J.W. has worked on this program since 2009 and developed the first platform for its CI/CD pipelines program. J.W. is an expert at deploying secure capabilities within the confines of written security controls in a risk-managed framework and has led this program to cATO capabilities. US Army Veteran.

**Senior and Lead ICAM Developer/SailPoint** — A.S. is the lead developer for the program team. His career spans more than a decade of focused work with SailPoint and other ICAM platforms. His experiences are accelerating our delivery of secure operations on the program's global-in-scale weapon system. A.S. is a leader, mentor, and talented developer, who focuses on the delivery of repeatable, measurable, and testable capabilities. US Army Veteran.

**Maintenance and Support Lead** — K.V. is the lead engineer for the Maintenance and Support (M&S) Tier 4 Support Team. He is a highly qualified Senior Systems Engineer for the program team, with expertise in leading the operations-focused portion of the program's Enterprise Services mission. His broad and deep experiences and skills enable him to see 'the forest *and* the trees' when it comes to larger goals such as maintaining overall adherence to written security controls based on CNSSI 1253. US Army Veteran.

**Senior Data Engineer** — D.B. is the Senior Data Engineer for the program's Enterprise Services. He has developed and delivered enterprise-level database and data-management solutions for platforms including Microsoft SQL, MongoDB, and PostgreSQL. His work blends the traditional architecture and performance tuning work typically supplied by a Lead Database Administrator with that of a Systems Programmer, packaging these solutions for deployment worldwide.

**Active Directory, Windows, and PowerShell Engineer** — D.F. is a veteran of this program, having come aboard in 2017 as an Active Directory Administrator and PowerShell developer. D.F. has proven himself in the field with smooth operational deployments and code deliveries and has subsequently taken on the role of the Active Directory Technical Lead for the entire program platform. US Air Force Veteran.

**Systems Engineer** — G.C. is a well-rounded Systems Engineer with skills that span Windows and Linux platforms. The breadth of his skills and his commitment to his work make him a valuable engineer on the Tier 4 M&S Operational Support team. US Army Veteran.

**Systems Engineer** — R.G. is a Systems Engineer on the program's platform, with time on the Identity and Access Management team, the Tier 4 M&S Team, and the Integration team. His willingness to do what it takes to get the job done makes him a great asset to the program's Enterprise Services team.

## **STERLING MANAGED SERVICES**

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Sterling stands out as a transformational partner in IT services, guiding enterprises through the complexities of the IT landscape. Our mission is to drive growth for our clients by delivering technology



solutions, support, and expertise. With services ranging from proactive IT management to innovative computer-vision implementation, Sterling is committed to optimizing your IT infrastructure, enhancing your security, and unlocking new opportunities for your business.

- **Comprehensive IT support:** End-to-end services designed to deliver performance while minimizing downtime and driving efficiency. This includes system optimization, proactive 24/7 monitoring, seamless integration of technologies, and rapid-recovery solutions.
- **Proactive approach:** Sterling continuously analyzes your IT infrastructure, anticipating potential issues and providing solutions before your operation can be impacted.
- **Customized solutions:** Sterling provides IT plans and scalable services that adapt to your changing needs. We leverage our extensive industry expertise to keep you ahead of the curve with innovative technology.
- **Strategic Partnership:** Sterling offers industry insights and strategies that will accelerate your growth and give you a competitive edge.

## Managed Services for AI

Managed Services for AI are crucial in the rapidly expanding and evolving technological landscape. As AI technology continues to advance, organizations must stay current with the latest developments, tools, and best practices. Our AI Managed Services leverage access to AI capabilities and applications without the need for extensive in-house expertise or significant upfront investments. We provide access to specialized knowledge, scalable infrastructure, and continuously updated AI models, allowing businesses to focus on their core competencies while still benefiting from AI-driven insights and automation.

### AI Managed Services:

- AI operations (AIOps)
- AI modeling monitoring
- AI model maintenance
- AI infrastructure management
- AI support
- Training services