



Information Technology Consulting and Technical Services

Request for Proposal RFP #5-2021

TRACE3

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1. Executive Summary

Trace3 helps define the IT framework, strategy, networks, and operations of private businesses, retailers, banks and credit unions, airports, healthcare providers, energy suppliers, and state and local governments within Louisville and around the country. We specialize in providing public sector and enterprise information solutions to exclusively perform at the highest level for our clients. Our account and management teams are established in the Louisville Statistical Area (“MSA”), local to Louisville to enhance our ability to provide dedicated support. Working in parallel with the Trace3 account team are Trace3 consultants specialized in AI, Cloud, Data Intelligence, Infrastructure, Intelligent Operations, Managed Services, Management Consulting, and Security disciplines, continuously training and obtaining critical certifications designed to exceed our client’s needs and expectations.

Staffed with a team of industry leaders, including a local **WBE partnership with Structured Inc.**, Trace3 is equipped with subject matter experts and best in breed professionals passionate about our clients’ businesses and livelihood. This expertise and breadth of knowledge has made us the go-to partner for technology needs. Utilizing our industry depth and practical experience, Trace3 is proven adept at handling today’s most critical IT issues for Lexington-Fayette Urban County Government and enabling tomorrow’s vision just as we have for [REDACTED] to name a few. Trace3 was selected by these neighboring agencies because of our trusted partner methodology, but more importantly, we’ve remained a partner because of our expertise, delivering on-time/on-budget engagements, and world class support. We are confident if awarded this bid, Lexington-Fayette Urban County Government will experience the true meaning of partnership with Trace3.

Trace3 has developed a consultative methodical approach to meet the goals and objectives of Lexington-Fayette Urban County Government Information Technology Consulting and Technical Services RFP 5-2021. We look forward to demonstrating this methodology and approach following a deeper dive with the Lexington-Fayette Urban County Government team and Trace3 practice leaders.

Based on the knowledge obtained from the RFP, Trace3 has a series of recommended steps for Lexington-Fayette Urban County Government, including participation in our complimentary sessions which are outlined within this response. At the end of these assessments, Lexington-Fayette Urban County Government will have an executable strategy to improve its overall organizational and technology focus, devised from methodical critical assessments and sessions, built with Trace3 expertise, and aligned with Lexington-Fayette Urban County Government’s team and objectives.

With the utmost respect, the Trace3 team appreciates the opportunity to continue our partnership through this Information Technology Consulting and Technical Services assessment phase, and ultimately, throughout the selection and implementation of IT services across the county.



[Click here to learn more about Trace3](#)



(Lexington, KY based WBE Business)

Who We Service



K-12 Education

- Affordable Solutions
- Technology Upgrades
- Network and Security Expertise
- Remote Connectivity Architecture and Implementation
- E-rate - **Click Here to Learn More**



Higher Education

- Cost-Effective Solution Curation
- Network and Security Expertise
- Remote Connectivity Architecture and Implementation
- Higher Education Support



State and Local

- Informed Decision-Making Through Technical Expertise
- Emergency Connectivity Assurance
- Cost-Constraint Optimization
- Data Utilization and Security



Federal

- Secure, Compliant, and Mission-Critical Focus
- 15-Year History of Innovative Success
- Complex Environment and Multi-Vendor Proficiency
- End-to-End Service Portfolio

2. Technology Assessment Trace3 Services

2.1. *SEE APPENDICES FOR ATTACHMENT A & B

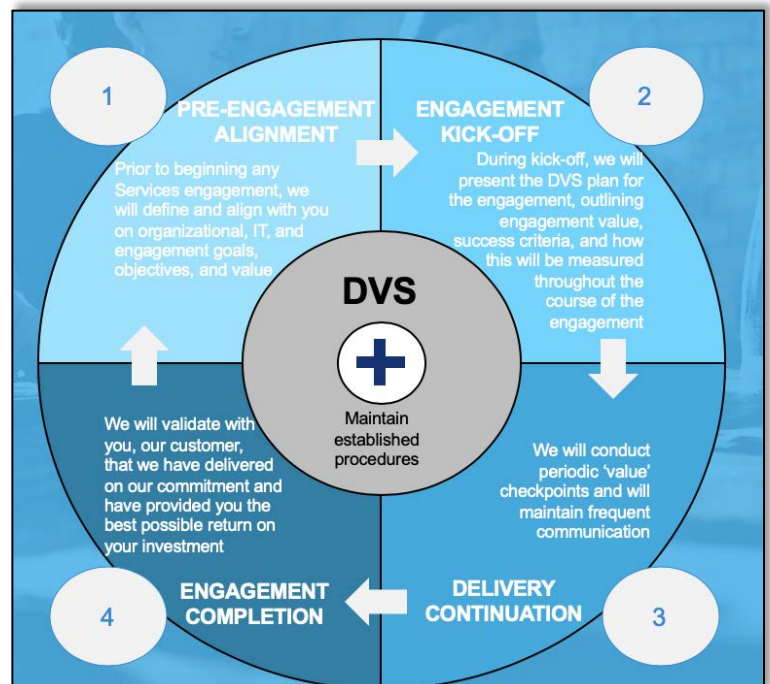
2.2. COMPLIMENTARY TRACE3 ASSESSMENTS

At Trace3, we pride ourselves on always being an innovator and strategic in action. Sometimes this involves guiding clients with vision, priorities, and even taking steps together with our clients to assess the current IT landscape, refine the objectives, and devise an executable plan targeting bite-sized projects as part of a larger vision. As a Trace3 client, complimentary assessments are available to Lexington-Fayette Urban County Government to allow us together to refine the “Why”, and in turn, then establish the “What” that will meet the county’s most pressing objectives and provide the greatest impact. As a value-added resource for our clients, Trace3 offers a variety of free training, workshops, and staff development opportunities. Some examples include:

- CISSP Training sessions offered monthly (more information at <http://t3mentor.me>)
- Cybersecurity Tabletop Training
 - Q2 Cybersecurity Tabletop (Healthcare/Life Sciences) – May 18th
 - Q3 Cybersecurity Tabletop (Financial Services/Insurance/Legal) – August 10th
 - Q4 Cybersecurity Tabletop (Utilities/Government and Education) – October 12th
- NIST Cybersecurity Framework (NIST CSF) Guided Self-Evaluations – a four (4) hour free workshop designed to help an organization, agency or department self-assess their security posture with guidance from one of Trace3’s cybersecurity executives.
- Cloud Workshop (See Appendices for sample deliverable)
- Pre-Sales Engineering Discovery Sessions

2.3. DELIVER AND VALIDATE SUCCESS (“DVS”)

Prior to outlining the breadth of services offered with Trace3, we would like to share our methodology and approach upon award of this RFP and preceding every project with Lexington-Fayette Urban County Government. The Trace3 account team will implement our Deliver and Validate (“DVS”) methodology, a beginning-to-end lifecycle, value assurance program. A method to define, align on, deliver, and verify the business and technical objectives and value associated with our Client’s investment.



Full Lifecycle Value Assurance

- Begin with the end in mind: We ask “what does success look like to you?” and ensure the delivery plan, KPIs, and metrics match the business objectives and financial analysis defined.
- Measure ongoing: We validate with the client throughout the engagement, revising if needed.
- Finish strong: The engagement is complete once we have successfully delivered to the client’s satisfaction. This includes validating efforts, results, and business and technical value delivered with the client, providing a physical representation that can be shared.

IT needs span all layers of the stack, and complete solutions require a variety of leading technologies. Each step along the way is vital and requires the kind of expertise that can see the big picture. At Trace3, we assess, design, and deploy comprehensive solutions to help you solve your most pressing IT business issues. Whether you need professional services to help architect and implement new technologies, or managed services to help support and maintain your IT department, Trace3 can craft a solution that meets your enterprise objectives.



- Integration Services
- Administrator Turnover Services
- System Management

Figure 1 -Trace3 Business Units

Custom services

- Consulting and Strategy
- SmartHands
- Migrations
- Staff Augmentation

Standard Services

- Health Checks
- Assessments
- Quick Starts
- Surveys

Configuration Services

Public Sector Services

Financial Services

Managed Services

- Cloud
- Managed Network
- Network Operations Center
- SmartHands

Trace3 focuses on the challenges that matter most to your business

Because no two organizations are exactly alike, our experts ask the critical questions to analyze your IT infrastructure – from your end-user to your data center. We then provide solutions tailored to your specific business needs and goals. From basic enhancements to complete transformations, our team employs industry best practices to ensure you get the most out of your investment while effectively managing and securing your data.

What Makes Us Different?***Integration and Logistical Capabilities***

The Trace3 warehouses and integration centers are strategically located less than two miles from an airport and a FedEx hub and less than two hours from Ann Arbor. With over 100,000 square foot of combined warehouse and integration capacity in Grand Rapids, Michigan, the infrastructure is in place to provide enterprise class capabilities around staging, integration, and logistics. These warehouse, staging, and integration offerings are tightly integrated with our professional services capabilities, which give us some truly unique differentiators including:

- Address challenges today related to lead times provided by the manufacturer.
- Simplify complexity of large-scale deployments.
- Reduce time to deploy the products for the business.
- Reduce logistics challenges deploying technology to data center, campus, office, or remote end user locations.
- Free up IT staff from integration and rack builds.
- Reduce dependency on onsite storage facilities for holding equipment prior to deployment.

Network Operations Center

Technology is at the core of your business, empowering your resources to execute day-to-day activities to move the business forward. Enabling valuable IT resources to focus on strategic initiatives is imperative to sustain business growth. Managed Services provides the support your business demands while freeing IT to deliver strategic solutions, driving competitive advantage and long-term success. Trace3 has two 24 x 7 NOCS in Louisville, KY and Grand Rapids, MI to assist our customers with a number of value-add services.

Account Management

Our business is built on enduring customer relationships, which means knowing your business and thinking creatively about long-term goals. Our independent recommendations are research-based and vetted through a rigorous in-house validation process. Trace3 delivers the most forward-looking IT tools as well as a customized program to ensure smooth adoption and clear value-add.

Venture Capital Briefings

To gain a competitive advantage, it is imperative to stay ahead of the innovation curve by leading the charge to leverage bleeding edge technology companies. At our exclusive VC briefings, you will be inspired to achieve limitless success through IT. Our Silicon Valley connections allow us to match your organization with the emerging technologies and subject matter experts utilized to solve the most painful problems today. At a Trace3 VC Briefing, you will spend a day in Silicon Valley speaking with innovators hand selected to suit your organization's most challenging issues.

Innovation and Research Team

Trace3's Research team identifies emerging competitive disruptors to offer organizations true solutions to real business problems ahead of the market. Our Research team examines new and emerging technology across key technology sectors daily. The conclusions reached from their analysis is added to our proprietary knowledge base for client review. Magnifying our agnostic approach to delivering purpose-built solutions for clients, the research knowledgebase enables our engineers to thoughtfully identify the most appropriate offering available to meet a client's unique business challenge.

We deliver efficient and flexible technology solutions to our clients of every size and industry through our core competencies in cloud, data intelligence, ITOA, productivity, and security.

Cloud

- Strategy
- Migration
- Optimization
- Foundation
- Transformation

Data Intelligence

- Data Platform Modernization
- Data Management & Governance
- Advanced Analytics

ITOA

- Monitoring System
- Data Management
- Visualization
- System of Engagement
- System of Automation
- System of Record

Infrastructure

Productivity

- Application Virtualization
- Application Packaging & Delivery
- End User Compute
- Firewall & Micro-segmentation
- Mobile Device Management
- User Profile & Performance Mgmt
- vStack

Security

- Executive Security Services
- Governance, Risk, & Compliance
- Security Intelligence
- Identity & Access Management
- Security Architecture & Engineering

For more details on any of Trace3's services, visit www.trace3.com/services

To learn more about Trace3 and Trace3 in the public sector visit:

<https://www.trace3.com/services/public-sector-services>

2.4. CLOUD

Cloud has become a business imperative for digital transformation and successfully navigating challenges that pose risk to an organization is critical. The Cloud Services team understands the challenges and serves as your guide to design a strategy to support your objectives. See Appendices for more information. Establish a cloud strategy to guide, support, and drive the strategic objectives for the enterprise. Trace3 develops a firm foundation and understanding of your short and long-term goals to drive an effective cloud journey.

- **HYPER-SCALE PUBLIC CLOUD INFRASTRUCTURE**

Leverage experienced certified AWS and Azure resources to deliver value-oriented engagements and programs to elevate the capabilities of your cloud environment. Our consultative approach to people, process, and technology enables the development of custom solutions to align your cloud initiatives to business outcomes. Empower your team to deliver agility, scale, and security while implementing opportunities for cost optimization and billing consolidation to effectively and efficiently manage your cloud environment.

- **DEVOPS**

Enable your business to achieve better software deployment agility, security, stability, and end-user satisfaction. Our experienced consultants help guide your team to fast-track DevOps through the implementation of best practices, automation, and leading-edge tools specific to your unique needs. We provide innovative automation, configuration management, and containerization solutions to elevate your DevOps journey. Whether you are building a DevOps practice or investigating AI for application deployment automation in your hybrid cloud infrastructure, our DevOps experts can guide and support your business to reach your business objectives.

- **CONSULTING**

Implement processes and programs at a strategic level to ensure your cloud journey stays on track. Our consultants deliver the thought leadership to provide both guidance and solutions in several areas around hyper-scale public cloud infrastructure. Our team can guide your business in establishing a Cloud Governance and Security Framework, developing a comprehensive Multi-Cloud Strategy, creating a Cloud Cost Management and Optimization program, or building a Zero-Trust Cloud Security model.

2.5. CONSULTING

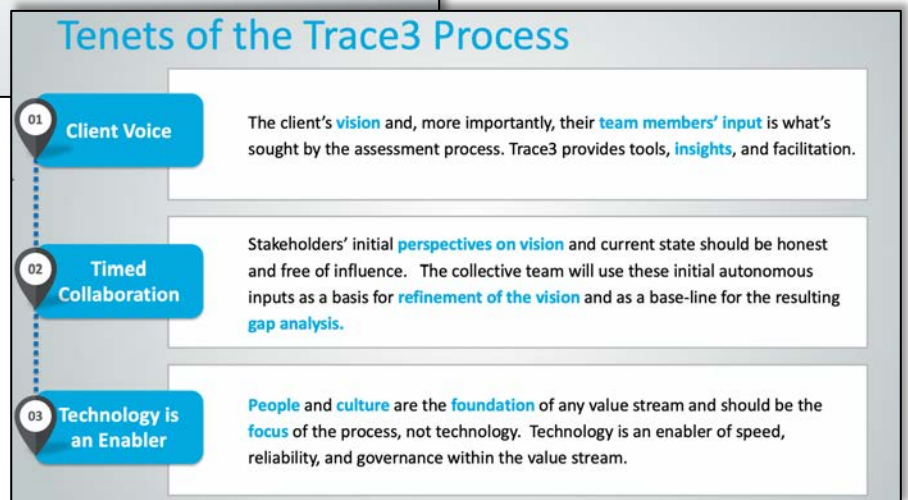
The Management Consulting team is practiced in successfully guiding teams and organizations through strategic and highly visible business initiatives to optimize performance and enhance business outcomes. Leveraging years of industry experience, our experts guide your team with a proven methodology navigating cognitive biases and utilizing industry best-practices to provide the objective and critical evaluation required to transform your business. See Appendices for more information.

2.5.1. Cloud Adoption Framework (“CAF”)

The Cloud Adoption Framework (“CAF”) is a Cloud Consulting service that Trace3 recommends for clients in the early phases of Cloud adoption. This engagement is designed to facilitate conversation and obtain alignment between key stakeholders of an organization on their preparedness to address common obstacles and proactively avoid pitfalls found during the early stages of cloud adoption. At the conclusion of the engagement, the organization should have identified areas of existing preparedness, as well areas of unpreparedness, which will be used to build a low-level actionable plan toward unobstructed cloud adoption. **See Appendices for Sample SOW, including scope particulars for this engagement. Trace3 is agnostic in our approach to provide unbiased guidance to our clients. Migration incentives available for both AWS and Azure cloud platforms.**



Trace3’s CAF Consulting Workshop improves a client’s focus, strategy, and in-turn performance as an organization.



2.6. DATA INTELLIGENCE AND AI



Trace3's Data Intelligence team delivers a program approach to enterprise data strategies to drive outcomes. See Appendices for more information. Artificial intelligence and machine learning are new tools that make connections, see relationships, surface predictions, and take actions quicker than any human being. At its core, AI/ML is a predictive programming algorithm, using the known to infer the unknown.

Market and competitive dynamics are changing faster than human insights can respond, making now the time to leverage AI/ML. Not only is the data volume for AI models increasingly available, but the tools have matured and are now more affordable. Trace3 helps empower our client's organization and significantly impact their business outcomes. See Appendices for more information.

2.7. INFRASTRUCTURE



Helping customers increase business agility and innovation by transforming their data center capabilities. By leveraging new and emerging technologies, we add flexibility, scalability, and efficiency to our customer's environment. Our team of solution architects, consultants, and engineers possess the expertise and real-world experience to guide customers through the ever-changing technology landscape to design, deliver, and optimize cutting edge data center solutions, empowering them to grow securely, effectively, and efficiently. See Appendices for more information.

2.8. INTELLIGENT OPERATIONS



Data is the Currency that Organizations use to buy Operational Business Outcomes

Intelligent Operations focuses on establishing a Data to Decision Architecture that provides proactive monitoring, advanced analytics, and useful insights for our customers. The analytics effort goal is the discovery of patterns - clusters or groups naturally occurring in the data that are used to predict possible incidents and emerging behavior. These patterns help determine the root causes of current system issues and to intelligently drive automation for remediation.

Intelligent Operations centers around three pillars that transform data into insights and ultimately positive organizational change.

- **Observation** - Foundational to most enterprises, this pillar of Intelligent Operations focuses on collecting, storing, and analyzing operational telemetry and encompasses the system of monitoring and the system of data.
- **Engagement** - Aggregating, enriching, and correlating events, this pillar of Intelligent Operations focuses on improving operational efficiency, record keeping, and business process optimization.

- **Automation** - Converting manual activities into automated work streams, this pillar of Intelligent Operations focuses on process automation and orchestration.

Enabling businesses to extend visibility and expert support over their networks.

2.9. MANAGED SERVICES

The Trace3 Managed Services Group enables businesses to extend visibility and expert support over their networks. Trace3 associates and engineers focus on critical recurring IT Operations, allowing your team to focus on strategic Initiatives. This proactive operational approach improves business outcomes by driving efficiencies, reducing risk, and improving profitability.

By following industry best practices and proven methodologies, Trace3 experts deliver the help your team needs to effectively manage and empower your business. Offloading routine IT tasks to focused professionals allows your technology team to concentrate on strategic business initiatives, accelerating time to market and business outcomes. Operating for over 20 years, we are proud to offer 100% U.S. staffed Help Desk and Technical Assistance Center (“TAC”) support to the needs of Lexington-Fayette Urban County Government. The Help Desk and TAC delivers support from Network Operations Centers (NOCs) located in Louisville, KY and Grand Rapids, MI, and they consistently achieve high client sat ratings, as indicated by a score of 4.9 on the Likert scale. When Trace3 Managed Services are utilized, these act as a single point of contact for service request management, incident management, and problem management resolution, including coordination with UCaaS manufacturer support services when complex issues arise. Managed Services options include 8am – 5pm Normal Business Hours (“NBH”) and 24x7.

Trace3 offers standard and custom Service Desk Solutions that meet client business goals and objectives. We work closely with each client to define successful business outcomes that meet those requirements.

- **MONITORING AS A SERVICE** Protect your business, improve network visibility, and mitigate risk with proactive monitoring to enable your business to better assess vulnerabilities, anticipate network needs, and perform remediation. Proactive support and notification of any device attached to the network. We offer Basic and Premium Service for this solution. The escalation process workflow is a Standard P3 notification sent to the client and designated technical resource as they occur via email, and the electronic workflow will be in place for Normal Business Hours (“NBH”) Emergency or P1 Notifications will be sent to the client and designated technical resource as they occur via email, and the electronic workflow is in effect 24/7. An escalation workflow, including after hours, emergency and all appropriate contact information, is created as a part of this service.
- **HELP DESK AS A SERVICE** Supplement your IT department with dedicated resources incorporating proven processes and tools to support your business at times you

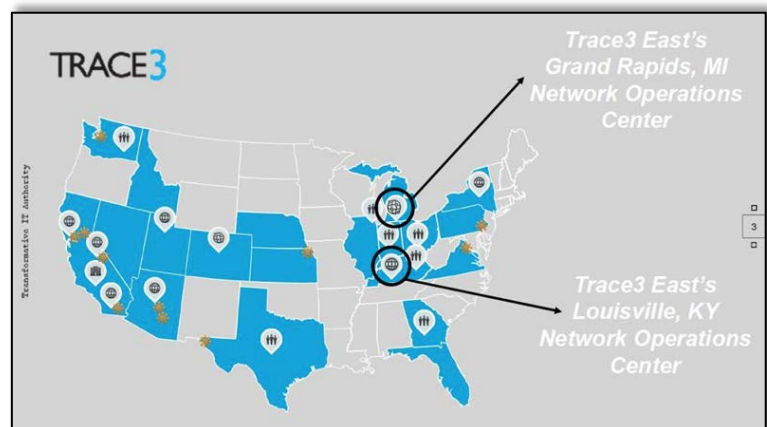
cannot, including after-hours and weekends. Level 1 and Level 2 HDaaS is available. The solution can be a combination of prepaid tickets or as simple as T&M Support.

- **PATCHING AS A SERVICE** Safeguard against security threats by ensuring every machine has the latest software patches installed to effectively strengthen your overall security posture.
- **COLLABORATION SUPPORT** Maintain productivity while streamlining and simplifying communication to ensure business-as-usual with support for daily operational issues post implementation, keeping your team engaged, dynamic, and valuable.
- **BACKUP AS A SERVICE** Protect the operational integrity of your business by removing the challenges of off-site backups such as a lack of resources, limited bandwidth, and growing data volumes to successfully deploy an off-site backup repository.
- **DAY TWO SUPPORT SERVICES** Free your valuable resources to focus on strategic initiatives leveraging Incident Response & Service Request Fulfillment offerings available after hours, weekends, or whenever your staff is overburdened.
- **SMARTHANDS SERVICE** Operating as an extension of your existing IT team, our team is dedicated to supporting your data center requirements and collaborating with your business to evolve and improve your data center operations.

Trace3 has two redundant NOCs located in Louisville, KY and Grand Rapids, MI. All are staffed with Trace3 employees; none of these services are offshored or near-shored. We are 24/7/365. See Appendices for more information.

The Trace3 Managed Services Team uses ConnectWise Manage as our Help Desk Ticketing, Time Tracking and Billing platform and we invoice out of Trace3's NetSuite Business Management Tool. Trace3 has the flexibility to tailor managed services to best meet the

goals and requirements of Lexington-Fayette Urban County Government. As an example, we can bill per device, per hour, in blocks, flat rate that includes a baseline of services.



PROCESS DEFINED (PURPOSE)

Priority definitions used to define ticket severity and workflow. Escalations are built on a ticket Priority as defined by these definitions.

INTENT OF PROCESS (SCOPE)

Priority 1 (ASAP): An existing network is down or there is a critical impact to the end user’s business operation. OEM, partner, and end user will commit full-time resources to resolve the situation.

Priority 2 (HIGH): Operation of an existing network is severely degraded, or significant aspects of the end user’s business operation are being negatively impacted by unacceptable network performance. All parties obligated under the support agreement and end user will commit full-time resources during standard business hours to resolve the situation.

Priority 3 (MED): Operational performance of the network is impaired while most business operations remain functional. All parties obligated under the support agreement and end user are willing to commit resources during standard business hours to restore service to satisfactory levels.

Priority 4 (LOW): Information or assistance is required on OEM product capabilities, installation, or configuration. There is clearly little or no impact to the end user’s business operation. All parties obligated under the support agreement and end user are willing to provide resources during standard business hours to provide information or assistance as requested.

GLOBAL ENTERPRISE MANAGEMENT SERVICES					
GEMS Escalation Grid					
CW Timers	Priority Levels	Escalation	Escalation	Escalation	Escalation
24 x 7	Priority 1 (ASAP)	15 Minutes	30 Minutes	45 Minutes	60 Minutes
8-5 Mon-Friday	Priority 2 (HIGH)	30 Minutes	30 Minutes	60 Minutes	90 Minutes
8-5 Mon-Friday	Priority 3 (MEDIUM)	60 Minutes	60 Minutes	120 Minutes	180 Minutes
8-5 Mon-Friday	Priority 4 (LOW)	240 Minutes	240 Minutes	360 Minutes	480 Minutes
		On Call Resource	Practice Lead(s)	Director(s) Services and NOC	VP’s Managed and Professional Services

Normal Business Hours are 8:00 AM to 5:00 PM Monday - Friday

Priority 1 Escalations run 24 x 7 x 365

Priority 2, 3, and 4 Escalations "FREEZE" during Non-Business Hours

2.10. SECURITY



2.10.1. Security 360

Perhaps it is a client's overall security posture, specific areas, or everchanging security and management that needs to be defined. Trace3's Security 360 program is a packaged holistic approach allowing flexibility to maximize maturity over time. Covering ten (10) service offerings, our Governance, Risk, and Compliance team leverages frameworks and expert-level knowledge of IT security and compliance to assess your Vulnerability Management program using a workshop methodology designed to rapidly provide actionable recommendation for improving security and reducing risk. (See Appendices for the Security 360 Draft Proposal).

2.10.2. Penetration Testing

Trace3's penetration testing methodology is a hybrid approach that blends traditional offensive testing with industry best practices and threat actor techniques. By utilizing the common kill chain methodology employed by various threat actors and defensive security practitioners alike, Trace3 is able to not only mimic an offensive actor but also spot gaps in defensive postures.

Our penetration testing methodology aligns with the industry-standard kill chain process and includes elements which simulate and align with multiple threat actor profiles. Sophisticated reconnaissance procedures help us understand the environment and effectively target testing. Our full methodology also allows us to think like the defender to both verify and validate any defenses in place along with uncovering any gaps in coverage.



Figure 2 - Kill chain expanded and threat actors

The current threat landscape has changed drastically in recent years as cybercrime has evolved to not only include the theft of financial funds, but also data itself from personally identifiable information to who owns what assets. Attackers are constantly evolving new ways to both compromise entities and monetize the data in which they gain access. By keeping up with current trends in all relative market verticals of our clients, Trace3 is constantly evolving with the new threats and tactics as they appear in the wild. By keeping well-informed of the attackers Trace3 can deliver valuable insight into where resources should be most efficiently utilized.

2.10.2.1. Network Penetration Testing

Trace3's penetration testing approach to identifying vulnerabilities and exposures from the external perimeter, internal perimeter, wireless, and or signals/hardware threat landscapes is in line with industry standards such as the Penetration Testing Execution Standard (PTES). Trace3's approach can map to MITRE ATT&CK Framework and other kill chains as seen in the previous figure.

The PTES standard ensures pre-engagement activities provide bi-directional communication of scope, business objectives, and control over the approach to measuring quantifiable risk to the current threat landscape. Trace3 will provide network artifacts and accountability of the penetration testers whereabouts throughout the engagement.

In the intelligence gathering phase, Trace3's penetration testing team will attempt to passively, and in some cases actively enumerate technology, software version, network

disposition, and the people associated with the business technologies. Trace3 will attempt to gather personal and professional leaked credentials to leverage in the engagement.

After the intelligence gathering phases, the team will perform threat modeling analysis and prioritize vulnerabilities to exploitation activities. Upon approval, exploitation of vulnerabilities will potentially provide the penetration tester with initial access into the environment. After initial access is gained, the penetration tester will attempt to elevate privileges, laterally move, and determine opportunities to persist and access data.

The activities invested by Trace3 clients are intended to measure security controls, exposure opportunities, likelihood of exploitation, and potential impact or cost of exposure. If firmware is extracted from physical hardware or exfiltrated from data storage (if in-scope), the penetration testing team will follow Open Web Application Security Project's ("**OWASP**") firmware testing methodology (<https://github.com/scriptingxss/owasp-fstm>).

The client can expect remediation recommendations, risk communication consulting, and support throughout the engagement and after the engagement.

2.10.2.2. Wireless Penetration Testing

Trace3's wireless penetration test offering consists of testing employee awareness and the wireless access points ("**AP**") ecosystem. During the intelligence gathering phase, the team will attempt to identify other buildings such as Starbucks, hotels, and other nearby Wi-Fi lounges where employees may commonly visit. If possible, war dialers may have posted the data about those Wi-Fi lounges that allow the penetration testing team to transmit known beacons to client devices and de-authenticate client devices from APs to force man-in-the-middle attacks ("**MiTM**"). If applicable to the engagement, live portal attacks may be leveraged to gather credentials via wireless means as well.

The wireless penetration team can perform multiple Wi-Fi attack techniques, including eavesdropping, authentication attacks, encryption cracking, rogue wireless devices, peer-to-peer attacks, mac spoofing, management interface exploits, wireless hijacking, and social engineering, if applicable to the engagement. The penetration testing team is prepared to tackle the most common authentication protocols today, such as WEP, WPA, WPA2, EAP-FAST, EAP-LEAP, and other protocol avenues.

2.10.2.3. Website and Mobile Penetration Testing

Trace3 penetration testing organization aligns with the OWASP Web Application Security Testing Guide version 4.2 (https://owasp.org/www-project-web-security-testing-guide/latest/4-Web_Application_Security_Testing/) and the OWASP Mobile Security Testing Guide (<https://owasp.org/www-project-mobile-security-testing-guide/>) for Website and Mobile Android/iOS applications.

During the pre-engagement period, the Trace3 penetration testing team works to understand the use case for either a website or mobile application. Although this phase is

not essential, a more complete understanding of the customer organization's website, mobile applications, organizational supply chain, business processes, and technologies can greatly advance the specificity and value of our testing.

2.10.2.4. Trace3 Physical Access Control and Facilities Penetration Testing

Physical security posture should be thought of as a series of barriers designed to dissuade or hinder an adversary in a manner which slows their progress and increases the cost of unauthorized access. If the time and cost of success exceeds the threshold of what is acceptable to the adversary, the adversary will either decline to attack or fail in the process. No security system or technology can thwart all threats without human supervision and intervention. In the most functional and effective environments, security systems and technologies should make the owners and controllers of a given facility or resource aware of threats and give sufficient information as to allow an appropriate response to be determined and executed.

Trace3 field teams use a variety of methods that reflect techniques and resources common among potential adversaries in real-world scenarios. A physical penetration test is divided into three phases: Reconnaissance, Live Engagement, and Documentary.

Reconnaissance:

During Reconnaissance, field agents use a combination of publicly available information, direct observation, and social engineering to build an intelligence profile against the target. Information obtained in this initial phase is used to model the layout and scope of Live Engagement, increasing chances of success.

Live Engagement:

In the Live Engagement phase, agents use information obtained during Reconnaissance to obtain ingress into the target facility and gain the trust of any human interceders encountered in the process. Because each facility and environment are unique, agents will use techniques or methods deemed most appropriate at the time.

Documentary:

Since the Live Engagement phase is often restricted in scope due to time and practicality, the final Documentary phase is used to record in detail the issues observed during Live Engagement. During this time, agents may also investigate and research auxiliary methods of attack with the highest likelihood of success. In order to account for threats both internal and external, agents will also formulate methods of compromise that originate from within the facility, either from potential employees, vendors, or contractors.

2.10.2.5. Trace3 Social Engineering Summary

Trace3's social engineering penetration test offering consists of OSINT, testing employee awareness, DNS configurations, and the email ecosystem. Attack vectors include pretexting, quid-pro-quo, and various forms of phishing.

Upon approval, the following attacks attempted are spear phishing, whaling phishing, and non-targeted phishing. The attacker's mission is to execute malicious code to gain access to a system or gain credentials. Vishing and smishing techniques try to persuade victims to reveal information and or perform various tasks. Business email compromise, open relays, and subdomain hijacking opportunities exposed are leveraged to spoof or masquerade as a trusted individual or electronic asset.

Trace3 attempts to exploit identified vulnerabilities to determine actual risk. All information security assessment methodologies follow accepted industry standards and best practices. Our Penetration test engagements are conducted in seven distinct phases. The kill chain methodology maps common attacker activities to the three most common threat actors. See Appendices for more information.

2.10.2.6. Penetration Testing Methodology

Trace3's External Penetration test offering consists of testing the target network's external (public-facing) exposure to identify vulnerabilities that could be exploited by an attacker over the Internet. This includes testing for remote code execution, weak configurations, application patch levels, and insecure services or protocols that could be used to gain unauthorized access into your network. Common services such as DNS, SMTP, IMAP, SMB, RDP, FTP, Telnet, SSH, SNMP, HTTP and HTTPS will be discovered and assessed for vulnerabilities. Trace3 will attempt to exploit identified vulnerabilities with the objective of determining actual risk. All information security assessment methodologies follow accepted industry standards and best practices. Penetration testing is conducted in seven distinct phases:



Figure 3 – Generic Phases of Intrusion Kill Chain Methodology

DISCOVERY	RECONNAISSANCE	An attack surface of the target is created by using automated and manual techniques. This phase helps determine the host operating systems, web pages, exposed ports and services, network segmentation, and other details that will be used in subsequent phases of testing.
	VULNERABILITY IDENTIFICATION	Automated scanning and manual techniques are used to identify vulnerabilities for the systems in scope. Each host is checked using industry recognized vulnerability scanning tools. Moreover, any misconfigurations that could potentially lead to a compromise are identified.
ANALYSIS	DEVELOP ATTACK PATTERNS	The findings from the Discovery phase are analyzed to formulate a series of attack scenarios giving Trace3 the best opportunities to achieve the end objectives of the project.
EXPLOITATION	EXECUTE ATTACKS	Manual attempt to compromise assets in scope. Privilege escalation methods and pivot attacks are often employed on compromised systems to attempt further access to additional systems and data.
	DEMONSTRATE ACCESS	Capture screenshots and/or sensitive data which clearly demonstrate the access achieved and the business impact.
REPORTING	AUTHOR REPORTS	Exploited critical and high-risk vulnerabilities are prioritized for detailed reporting purposes, while all findings identified as medium, low, informational, and false positives are captured in summary format.
	PEER REVIEW	All Penetration Test reports are reviewed by the Principal Resource on the engagement. Findings are double checked for accuracy and applicability.

2.10.2.7. Vulnerabilities Identified

The following is a list of vulnerabilities the Trace3 External Penetration Test looks to uncover:

<ul style="list-style-type: none"> ▪ Application Profiling and Information Disclosure ▪ Default Banners ▪ Unhandled Error Conditions ▪ HTML/JavaScript Comment Information Leakage ▪ Extraneous Content in Web Root ▪ Source Code Disclosure ▪ Robots.txt Path Disclosure ▪ Content Expiration and Cache Control ▪ Referrer Header Leakage ▪ Account Enumeration ▪ Backup/Archive Content 	<ul style="list-style-type: none"> ▪ Platform and Third-Party Misconfiguration ▪ Default Administrative Credentials ▪ Default Content and Scripts ▪ Weak SSL Implementation ▪ Flawed Use of Cryptography 	<ul style="list-style-type: none"> ▪ Cookie and Session Handling ▪ Session Fixation/Hijacking ▪ Set-Cookie Weaknesses ▪ Sensitive Information Disclosure ▪ Cookie Poisoning ▪ Multiple Simultaneous Login Allowed ▪ Session Timeout ▪ Explicit/Implicit Logout Failures ▪ Cookieless Sessions ▪ Custom Session Management
<ul style="list-style-type: none"> ▪ Command Injection Flaws* 	<ul style="list-style-type: none"> ▪ Logic Flaws 	<ul style="list-style-type: none"> ▪ Client-Side Technology Flaws
<ul style="list-style-type: none"> ▪ SQL Injection ▪ XPath Injection ▪ SSI/OS Command Injection ▪ Script Injection/Upload ▪ Cross-Site Scripting (XSS) ▪ Buffer Overflow 	<ul style="list-style-type: none"> ▪ Privilege Escalation ▪ Sensitive Information Disclosure ▪ Data Mining/Inference ▪ Functional Bugs ▪ Application-Specific Control Failures ▪ Weak Data Validation ▪ Race Conditions ▪ CPU-Intensive Functions 	<ul style="list-style-type: none"> ▪ Exposure of Sensitive Business Logic ▪ Reliance on Client-Side Validation ▪ AJAX/Web Service Flaws ▪ Java Applet/ActiveX Control/Flash Weaknesses
<ul style="list-style-type: none"> ▪ Authentication and Authorization 		
<ul style="list-style-type: none"> ▪ Unauthenticated Sensitive Content ▪ Poor Separation of Privilege ▪ Brute-Force Login ▪ Weak Password Policy 	<ul style="list-style-type: none"> ▪ Account Lockout/Denial of Service ▪ SSO Weaknesses ▪ Security Question Weaknesses ▪ CAPTCHA Flaws 	

*Please note: Some command injection flaws cannot practically be identified using run-time analysis alone. The only way to ensure the application is secure against command injection is through thorough source code analysis. However, obvious injection flaws will be discovered, and injection flaws will be flagged for review even if an exploit cannot be confirmed.

2.10.3. Governance, Risk, and Compliance (GRC)

2.10.3.1. Security Program Assessment



Figure 4 - Trace3 Security Strategy

The Trace3 security program assessment offering is geared toward evaluating the strengths and weaknesses of the security program to identify risks and prioritize remediation. The assessments can be modeled against various frameworks, including NIST Cyber Security Framework, CIS Controls, PCI-DSS, SOC 2, and more. Further, Trace3 can scope the engagements to focus on individual business units, business processes, or enterprise wide.

Security program assessment engagements follow industry standard practices, focusing on:

- Pre-assessment questionnaires providing valuable insight to the assessment teams regarding areas to target, who should be involved, etc.
- Interviews with key stakeholders to better understand the business drivers, compliance requirements, control environment, risks, and countermeasures.
- Documentation review to identify what policies and procedures may be involved and how effective they may be in addressing risk and guiding activity across the organization.
- Report briefing to provide a full knowledge transfer to the organization regarding strengths, areas for improvement, and specific prioritized recommendations.

Trace3 can also provide remediation roadmap planning sessions as part of the program assessment engagements. These sessions help provide high-level guidance for implementing desired remediation activities over a multiyear timeframe and are a valuable tool in communicating to both executive teams and operational personnel.

2.10.3.2. IT Risk Assessment

The Trace3 IT Risk Assessment model follows NIST 800-30 guidance and can be performed at various levels or tiers of the organization. Risk assessments at all tiers include an evaluation of vulnerabilities, threat actors and events, and control effectiveness. NIST defines the tiers as follows:

- Tier 1 – Organization level
- Tier 2 – Individual lines of business or business units
- Tier 3 – Information system level

Trace3 further leverages well-defined threat events within the NIST ecosystem, as well as emerging threats that may be relevant to the client, as a baseline for assessment. Once threats are identified, controls assessment is performed to identify existing vulnerabilities and countermeasures to better develop a complete risk profile. This helps ensure the organization gets the most value out of the risk assessment and can make well-informed decisions about future investment.

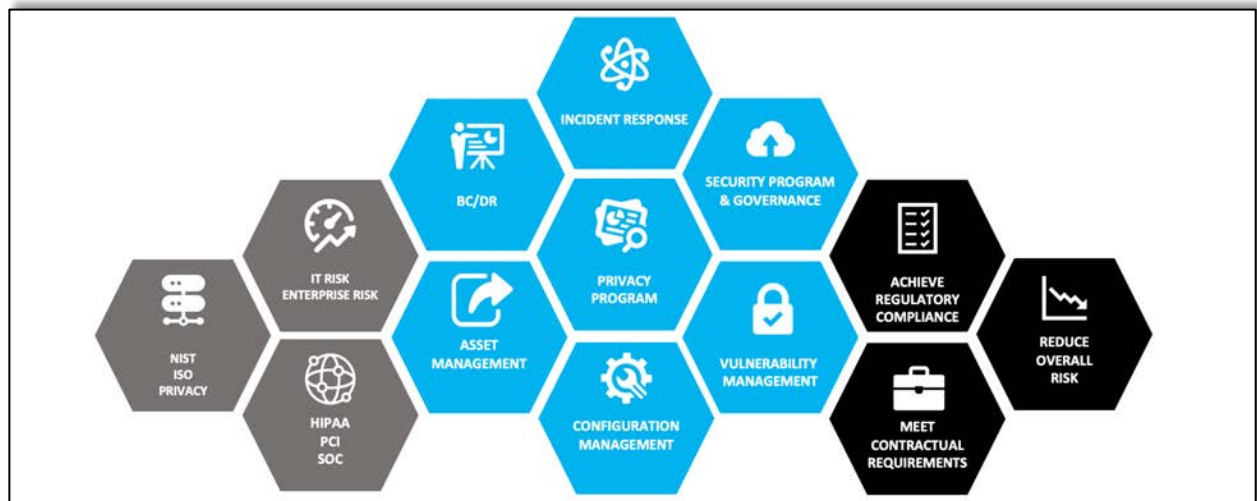


Figure 5 - Governance Risk and Assessment

2.10.3.3. Risk Management Program Development

Trace3 leverages industry-standard risk management frameworks, such as the NIST RMF and COSO, to build custom risk management programs that help organizations identify and manage risk over time. This is achieved through the layering of processes and technology for identifying and cataloging risk, building risk evaluation criteria, establishing a forum, and the frequency for reviews of risk. Further, Trace3 assists with building dashboards, composed of relevant key risk indicators (KRIs) that communicate risk to key stakeholders.

Through the effective identification, management, and communication of risk, organizations can better protect themselves against the never-ending onslaught of emerging threats. Moreover, organizations can ensure they invest in the areas that address their key risks. See Appendices for more information.

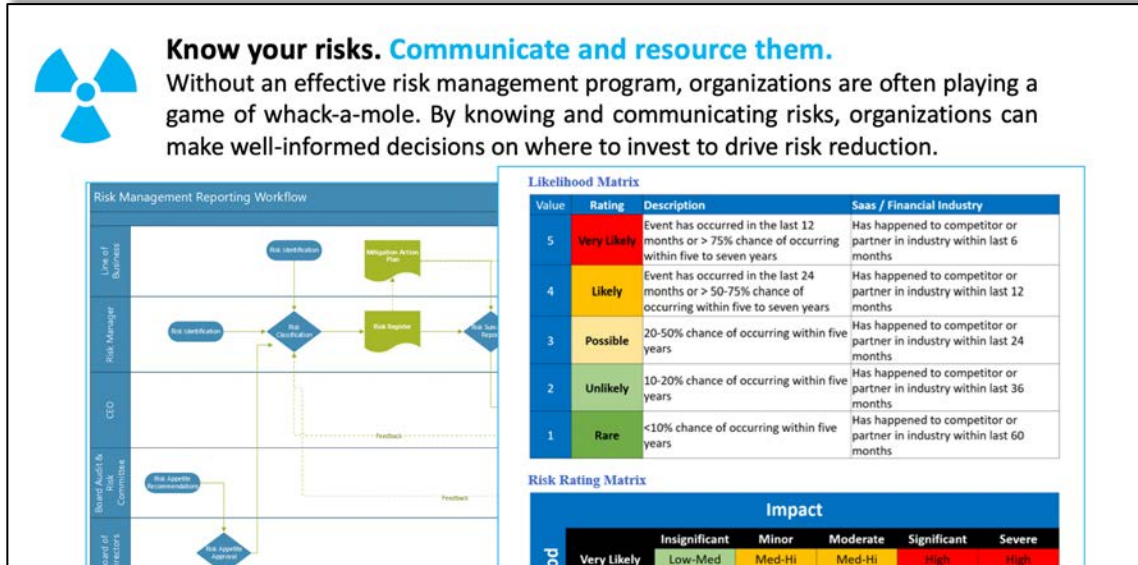


Figure 6 - Know the Risks

2.10.3.4. GRC Program Development

Trace3 supports organizations in their need to meet compliance requirements through proactive, strategic planning of their compliance management. The Trace3 GRC Program Development offering helps to stop the fire drills of compliance audits by organizing the organizations compliance activities (controls) against its compliance requirements. Trace3 identifies the controls and relevant metadata, such as control ownership, review criteria, review frequency, and more. Then, Trace3 can map those controls to multiple compliance frameworks and assist with controls reviews. Further, Trace3 can implement and/or support technology to help streamline the GRC program and ensure success over time.

By bringing technology and organization to the compliance challenges, Trace3 can help streamline audit and reduce the overall burden.

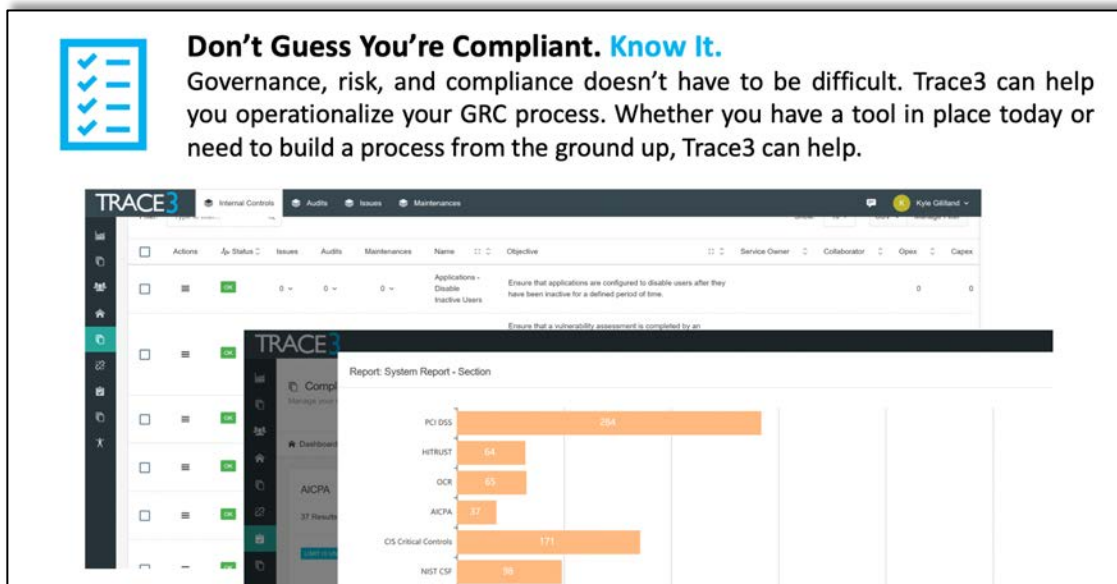


Figure 7 - Don't Guess You're Compliant

2.10.3.5. Business Continuity Planning and Incident Response Planning

Trace3 can support the development of needed governance in the areas of BCP and Incident Response. Following NIST guidance, Trace3 works with its clients to identify key business processes, support information systems and vendors, and develop documents and artifacts that guide recovery. Typical governance initiatives in this area involve the creation of a business impact analysis (BIA) that will drive additional documents, including the BCP and Incident Response Plan.

Trace3 consultants engage with line of business leaders to understand the key business processes performed, criticality of the business process, and expected recovery time objectives (RTOs) for the tools used to complete those processes. Then, the consultants work with IT and outside vendors (as necessary) to understand the current recovery capabilities and identify areas that may be misaligned. Final recovery documentation leverages the BIA input to drive criticality tiering and overall recovery operations. See Appendices for more information.

2.10.3.6. Software Development

Trace3 doesn't offer Software Development as a part of our core services, however, based on the scope of the project, we can leverage one of our hundreds of partners, and specifically one that aligns with Lexington-Fayette Urban County Government's participation goal for utilizing the MBE/WBE/Disable Veteran contractors.

3. Company Information

3.1. BUSINESS/FIRM PROFILE AND LEGAL STRUCTURE

3.1.1. Legal Name, address, phone, fax, email, federal ID# and website address.

Trace3, LLC

- **Corporate Headquarters**
7565 Irvine Center Drive, Suite 200
Irvine, CA 92618
877-575-8877
- **East Coast Corporate**
5555 Corporate Exchange Court SE
Grand Rapids, MI 49512
877-575-8877
- FEIN: 95-4876514
- legal@trace3.com

Website:

www.trace3.com

LinkedIn:

<https://www.linkedin.com/company/trace3/>

Twitter:

<https://twitter.com/trace3>

Facebook:

<https://www.facebook.com/Trace3.Corp>

Instagram:

https://www.instagram.com/trace3_ig/

3.1.2. Business Partners

Structured Incorporated, in partnership with Trace3, will be a dedicated resource on each and every engagement. A local WBE sub-contractor providing operations and technology solutions, streamlined processes, augmenting the Trace3 team of engineers. A part of the Trace3 team, and an extension of Lexington-Fayette Urban County Government, the specific technical delivery skillsets include Project Management and process documentation and improvement.



Structured Inc.

Lexington, Kentucky

859-300-3321

www.structured-inc.com

3.2. Staffing

We are confident Lexington-Fayette Urban County Government will be well equipped with Trace3's team of accomplished industry experts. However, due to the broad scope of this RFP and our Trace3 specialized resources, it's difficult to identify specific resources for all potential engagements as a part of this RFP. The Trace3 Kentucky team has over 80 local resources in Louisville and Lexington, and nationwide we have a 12:1 ratio of engineers to sales experts spanning across all business units. Upon discovery with Lexington-Fayette Urban County Government, resources will be identified. However, the following individuals represent the local dedicated account team:

- **Mike Phelps**

Public Sector Specialist with 20+ years of experience leading sales and delivery teams in Kentucky. Mike brings extensive experience with contract compliance, state and local contracting, and OEM experience. Mike's consultative approach ensures the right business outcomes are understood, aligning to OEMs and contracts, as well as purchasing requirements.

- **Dave Parrot**

A Solutions Architect and driven IT domestic and international leader with 18+ years of hands-on experience leading all aspects of information technology including business requirements definition, infrastructure design, architecture, testing, implementation, Presales Engineering, and support. Dave owns a track record of increasing responsibility in information technology management and design, application analysis/development, and full lifecycle business service management. He also has proven successful directing a broad range of corporate IT initiatives in direct support of business objectives.

Analytics Consultant: The Trace3 Analytics Consultant specializes in Data, Business, and Visual Analytics. The consultant leads the design and implementation of automation and process improvement through information technology and systems. The consultant will gain a deep understanding of the client's current front-end data process and visual analytics to assist in empowering through automation, dashboarding, and education.

The **Advanced Services Architect (ASA)** provides technical expertise in all phases of E3 Methodology. In the Envision Phase, they offer support for duties including Health-Checks, Assessments, Discovery and Documentation, and Pre-Sales validation efforts (works with EA). In the Engage Phase, they offer support for duties, including Low-Level Design (works with EA) as well as Remediation, Staging, Implementation, and Migration, especially where new technology is involved. All these duties occur within the ASA's area of technical expertise. In the Evolve Phase, they help position appropriate support services to help the customer operationalize their solutions, including Education Services, Managed Services, or both.

The **Engagement Architect (EA)** is a hybrid role spanning both Product and Services. The EA primarily supports clients by completing Pre-Sales (Envision Phase) Deliverables,

including Service Briefs, Bill of Materials, Scope of Services, Level of Effort, and Solution Proposal and overall development of content for the Statement of Work. The EA also supports clients by completing Post-Sales (Engage Phase) Deliverables such as Low-Level Design, generation of collateral and documentation which supports the architectural and delivery needs of the project, as well as the Documentation Review at the end of the project. All these duties occur within the EA's area of technical expertise. The EA oversees the entire lifecycle of a customer, from pre-sales through delivery. Our senior EAs are experts in architecting traditional and modern data center infrastructures with prior experience in senior IT and data center architecture roles at leading technology integrators and Fortune 500 companies across a variety of vertical markets including Healthcare, Finance, Retail, Manufacturing, and Utilities.

The **Advanced Services Engineer (ASE)** provides technical expertise primarily in the Engage Phase of E3 Methodology. As such, they are less focused on Product and Architecture and are much more focused on the Delivery aspects of a project. They offer support for duties, including Discovery and Documentation, Low-Level Design, Remediation, Staging, Implementation, and Migration (works with ASA). All these duties occur within the ASE's area of technical expertise. This role demands thorough technical knowledge in a defined area of expertise (Storage, Networking, Security, Virtualization, etc.).

The **Advanced Services Associate Engineer (ASAE)** provides technical expertise, primarily in the Engage Phase of E3 Methodology. As such, they are most focused on Delivery aspects of a project. They offer support for duties including Remediation, Staging, Implementation, and Migration (works with ASE). This role demands thorough technical knowledge in a defined area of expertise (Storage, Networking, Security, Virtualization, etc.).

Director Analytics and Visualization: The Trace3 Director of Analytics and Visualization has over 20 years of technology and management consulting experience in business/marketing strategy, operations improvement, product development, and IT. He is a technologist working in, and with the lines of businesses, targeting business outcomes and metrics through analytics and fit-for-purpose technologies. The Director assesses business and operations drivers; defines use cases and process, technology requirements; architects capabilities roadmaps; and drives implementation and benefits realization. He also is vested in advanced analytics, which includes machine learning and deep learning, and combines it with industry and functional expertise to achieve scalable business outcomes.

ITOA Engineer, Architect, and Principal:

ITOA Engineers have completed technical training and certification or have equivalent years of experience to qualify them for implementation of the corresponding technology, focusing on single to multiple complimentary disciplines. Responsibilities include utilizing an established design for installing, configuring, and supporting complex technology platforms. These activities are typically followed by documentation exercises and participation in customer-facing presentations to discuss the work performed.

ITOA Architects often hold multiple certifications to aid in the design and assessment of technical systems. During creation of a design, Architects will work with customers to identify stakeholders, clearly define requirements, and determine the appropriate technical activities that must be completed to achieve the desired outcome.

ITOA Principals have strong technical backgrounds spanning a myriad of technologies. These individuals provide technical leadership within a cross-functional team and focus on delivery oversight to ensure project outputs meet or exceed our high quality of standards. Principals develop and maintain vendor relationships and adapt our deployment methodology or best practices based on technology or concept improvements. The Trace3 ITOA team brings on average 15 years of experience.

Principal Governance Consultant: The Trace3 Principal Governance Consultant has over 20 years of experience in data governance, business and systems analysis, project management, software requirements/design/specification development, creating use cases, and enterprise document management in a variety of industries, including financial and healthcare. The Principal Consultant has written numerous industry white papers on Analytics Development Life Cycle, Blockchain, and IoT.

Project Managers: The Project Manager owns the assigned project in all aspects (planning, scope, schedule, budget, risk, billing, and deliverables), leading according to the documented Company Project Management Framework. Responsible for several mid-size and smaller projects at any given time, the PM builds effective relationships with a diverse group of professionals (engineers, customers, IT Directors/VPs, C-Level Executives, Sales Account Managers, operations personnel, etc.) both internally and externally.

SEC Solutions Architect: The Trace3 Solutions Architect acts as an expert and trusted advisor providing guidance in support of sales activities. The Solutions Architect is an ambassador for the Business Unit and sells Trace3 offerings to Account teams and managers, who sell those offerings to customers with the ongoing support of the Solutions Architect. This role is considered a customer-facing position that requires strong communication skills across multiple disciplines.

SEC Senior Engineer: The Trace3 Senior Engineer builds upon the Engineer role as a senior resource focusing on multiple, complimentary disciplines. Senior Engineers often hold multiple certifications to aid in the design and assessment of technical systems. During the creation of a design, Senior Engineers work with customers to identify stakeholders, clearly define requirements, and determine the appropriate technical activities that must be completed to achieve the desired outcome.

Senior Principal Architect: The Trace3 Senior Principal Architect has focused a business and technical expertise toward more efficiently unlocking and managing the wealth of information inside data repositories. The architect has strong expertise in Hadoop, is

Cloudera certified, and has been the lead Architect for Trace3's most complex and highly successful Data Intelligence projects.

SmartHands Data Center Technician: Our 'Hands and Feet' Resources perform Data Center Rack Installations, Structure Cabling Installation, Cabinet Adjustments, PDU Installations and configuration, and infrastructure rack and stack. The Data Center Technician is the first line for incident response and triage, alert validation, moves, adds, and changes to the data center's environment. For inventory control and asset management, our resources create, update, and maintain rack elevations, port-to-port diagrams, and power matrixes.

AMS Transition Architect (TA) and Transition Manager:

The Transition Architect (TA) focuses on evaluation, design, and implementation of complex enterprise infrastructure solutions in support of migrations. The TA has broad data center engineering skills, providing guidance regarding methodologies, technologies, and strategies to address customer requirements. They provide technical advice for areas such as: data center consolidations and migrations, array and host-based data replication approaches, scripting for data extracts supporting inventory data aggregation and infrastructure health checks, and virtualized workload migration tools selection. The role also involves approach development – hosting site and public cloud targets, collaborates with the Project Manager to drive complex, multi-phased customer migrations to successful completion, as well as validating migration timelines, hour-by-hour migration plans and move group workbooks.

The **Transition Manager (TM)** owns all aspects of the project management, including planning, scheduling, budgeting and billing, deliverables, and resource management. They are the primary point of contact for the customer, including engineers, customers, IT Directors/VPs, C-Level Executives, Sales Account Managers, operations personnel, etc. The TM builds effective relationships with the customer's diverse group of professionals (engineers, customers, IT Directors/VPs, C-Level Executives, Sales Account Managers, operations personnel, Business owners) and manages and ensures communication is executed throughout the life of the program/project to key stakeholders. The TM also identifies and incorporates all customer internal processes to the planning and execution of the migrations, while also ensuring the project is effectively executed on time and by proper personnel with measurable completion of the activities.

The Advanced Services team has expertise with the complexities and requirements of IT project, program, and portfolio management in federal, state, and local government environments. Our team designs, implements, maintains, and applies process improvement to maximize the delivery of IT value through our own Project Management Office (PMO) for our clients within the government industry, as well as commercial enterprise technologies. Our PMO approach brings leadership together prioritizing project needs and direction through solid planning, budgeting, communication, interactions, and delivery vehicles, all of which are facilitated by IT leadership.

Trace3 **Security** employs leading Subject Matter Experts (SMEs) from multiple security domains who have served as a go-to training service provider for Covert Methods of Entry for commercial enterprises and government for over eight years.

Professional Credentials:

- Professional Locksmith Certifications
- Professional Safe and Vault Technician Certifications
- Government Services Administration Safe and Vault Certifications
- Access Control Technician Certifications
- Sensitive Compartmented Information Facility (SCIF) Construction
- Certified Executive Protection Specialists
- Law Enforcement Instructors
- Offensive Security Certified Professional
- Certified Ethical Hacker
- eLearnSecurity Certified Professional Penetration Tester (v2)
- CompTia Network+
- CompTia Security +
- CISSP
- CISM
- CIPP/US
- SANS GLEG – Law of Data Security & Investigations
- VMware Certified

Professional Affiliations:

- InfraGard (FBI)
- Security Industry Association (SIA)
- Associated Locksmiths of America (ALOA)
- Safe and Vault Technicians of America (SAVTA)
- National Tactical Officers Association (NTOA)
- International Law Enforcement Educators Training Association (ILEETA)
- SysAdmin, Audit, Network, Security Institute (SANS)
- The Open Organization of Lockpickers (TOOOL)
- National Child Protection Task Force (NCPTF.ORG)

**Project Management**

In partnership with Trace3, Structured Inc., a local WBE business, will augment the Trace3 team with a Project Manager equaling at least 10% on each Lexington-Fayette Urban County Government engagement. The PM role is responsible for the overall project and coordination of project management activities with Lexington-Fayette Urban County Government's Project Lead. The Project Leads will be responsible for coordinating all

engagement activities and scheduling resources as well as serving as the single point of contact for Trace3 and Lexington-Fayette Urban County Government for this engagement.



The Project will be managed using formal project management methodologies consistent with the Project Management Institute Project Management Body of Knowledge (PMBOK) framework, which can integrate and align to existing PMO process and Agile methodologies. The following is a list of common Project Management tasks performed towards successful project outcomes:

- **Project Initiation**
 - Facilitate Project Kick-Off confirm scope, deliverables, and the timeline
 - Establish Project objective and success criteria
 - Identify all assumptions, dependencies, and constraints
 - Establish the Project budget
 - Establish governance for the Project and team
- **Project Planning**
 - Perform stakeholder analysis and establish the Communication Plan to be executed throughout the Project
 - Identify all site readiness items/tasks
 - Work with technical team(s) to establish an approved detailed Project Plan/Schedule
 - Facilitate design sessions with technical team(s) to establish the final low-level design and configuration details for implementation
 - Confirm Client Change Management Procedures
 - Define the transition/on-going support strategy
- **Project Execution**
 - Drive and manage implementation efforts per the established Project Plan
 - Define a Test Strategy and establish a Test Plan
 - Execute all testing effort defined in the Test Plan
 - Define and execute the Cutover/Migration Plan and Go-live strategy
 - Execute the post-live transition strategy
 - Execute the planned training (if applicable)
 - Facilitate schedule or on-demand meetings to support project efforts
 - Execute any additional required client internal processes
- **Closure**
 - Complete Lessons Learned with the Team
 - Complete transition process to transfer to Lexington-Fayette Urban County Government
 - Obtain final Lexington-Fayette Urban County Government sign-off (Certification of Completion)

3.2.1. Brief history of business/firm including date the business/firm was established under the current name.

Trace3 is a premier provider of consultation services and advanced technical solutions for information management. Founded in 2002, Trace3 empowers organizations to embrace the ever-changing IT landscape through elite engineering and dynamic innovation. With deep roots in the data center, Trace3 offers a broad mix of end-to-end technology services and solutions. These range from artificial intelligence and data insights to cloud computing and security consulting. Trace3 also maintains a Venture Capital (VC) CIO Briefing program, with a sharp focus on emerging technologies, and provides clients with extensive, primary research focused on the latest IT trends. The company continues to expand its footprint with a base of more than 6,000 clients, 900 employees, and office locations across the United States. Trace3, LLC, has strong financial roots and is privately held by H.I.G Capital.

TRACE3 MISSION AND VISION STATEMENTS:

MISSION STATEMENT

To elevate secure the lives of our clients, employees, partners, and communities.

VISION STATEMENT

To always be an innovator for our clients, strategic in action, and committed to business value realization by operationalizing new technology solutions with world-class consulting and elite engineering.

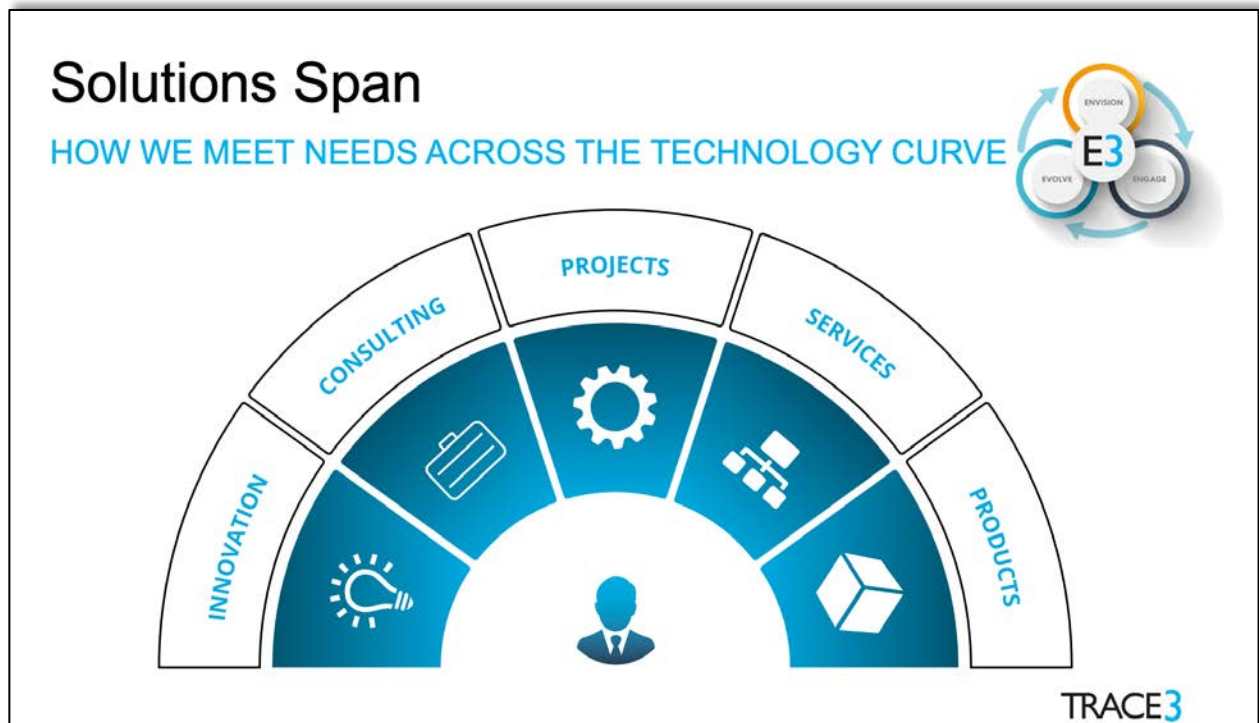


Figure 8 - Solutions Span

As a Transformative IT Authority, Trace3 is the premier provider of IT solutions. We integrate IT products and services with insightful consultation to provide total transformation for both

executives and organizations. Our elite engineers implement tomorrow's processes, systems, and hardware to solve today's most pressing IT problems, standing shoulder-to-shoulder with our clients to protect and serve their interests with the complementary business units.

Trace3, LLC is a privately held company and typically does not release Financial Statements when responding to request for proposals. If financial statements are required for the RFP, with an NDA in place, the Trace3 Account team will connect Trace3's financial representative with a named contact within your organization to have this information sent direct.

3.3. EXPERIENCE/REFERENCES

[Redacted]

[Redacted]

[Redacted]

[Redacted]

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4. Pricing/Rate Cards

Discovery Session	Rate
Pre-Sales Engineering Session	\$0*

Consulting/Cloud	Rate
Cloud Workshop Session	\$0*
("CAF") Cloud Adoption Framework Consulting Workshop	\$99,965.00*

Managed Services	Rate
MaaS – Monitoring as a Service	\$10-\$70 per device*
HDaaS – Help Desk as a Service	\$10-\$70 per end user/per desktop*
PaaS – Patching as a Service	\$10-\$20 per server*
UCD2 – Cisco Collaboration Support	\$1-\$20 per handset*
Day2aaS – Day 2 as a Service	\$180-\$250 per hour* Normal Business Hours
Hourly Rate	\$200-\$250 Normal Business Hours * 2x Rate – Priority 1

Security	Rate
CISSP Training	\$0*
Security Workshops	\$0*
Table Top Exercises	\$0*
Security 360 (See Appendices for Draft Proposal)	\$95,000.00*

Incident Response Retainers	Fee Component
Tier 1 - One-hundred (100) hours of analysis and IR management	\$40,000.00*
Tier 2 – One-hundred sixty (160) hours of analysis and IR management	\$62,500.00*
Tier 3 – Three-hundred twenty-five (325) hours of analysis and IR management	\$120,000.00*

IT Audit	Fee Component
Professional Services & Project Management	\$20,000.00*
Firewall Review	Fee Component
Professional Services & Project Management	\$23,000.00*

Social Engineering	Fee Component
Professional Services & Project Management	\$8,000.00*
IT Risk Assessment	Fee Component
Professional Services & Project Management	\$28,500.00*

**The table above represents example fixed fees and projects provided by Trace3. Lexington-Fayette Urban County Government's fee components will be clearly outlined and provided when exact scope particulars are defined.*

The Parties will agree to travel arrangements prior to the incurrence of travel-related expenses. Trace3 will provide Lexington-Fayette Urban County Government copies of appropriate receipts and related documentation to substantiate any invoiced Travel and Expenses.

5. Partner Certifications and Awards


TRACE3 PARTNER AWARDS





Cisco Partner Executive Council Member
Cisco Advisory Board Member

2020 - Customer Experience Partner of the Year
2020 - Data Center Architectural Excellence Partner of the Year
2018 - West Architecture Excellence Partner of the Year
2018 - West Area Partner of the Year
2018 - Americas Data Center Partner of the Year
2018 - Central U.S. Software Partner of the Year
2017 - App Dynamics Titan Partner
2017 - Architectural Excellence: Data Center Partner of the Year
2017 - West Partner of the Year
2017 - West Partner of the Year - Architectural Excellence in Data Center
2016 - West Area Partner of the Year
2016 - West Area Architectural Excellence Collaboration Partner of the Year
2016 - West Partner of the Year - Architectural Excellence in Collaboration
2015 - U.S. Innovation Partner of the Year & Outstanding ISV Solution Integration Partner

2018 - Americas West Partner of the Year
2017 - Excellence in Partnership – Technical Excellence
2017 - SoCal Difference Maker Award
2016 - West Excellence in Partnership



2018 - Top Growth Partner of the Year



2016 - North American Partner of the Year



2020 - Partner of the Year



2016 - Partner of the Year (Western US)



2019 - Solutions Partner of the Year

2018 - West Partner of the Year
2016 - Professional Services Certified Partner of the Year Spotlight



2019 - Dell World Elite Engineering Recognition (1 of 7 in the U.S.)
2016 - Services Partner of the Year



2016 - West Partner of the Year



2019 - West Partner of the Year
2018-2019 - Elite Partner



2017 - Reseller of the Year





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6. Closing Summary

Trace3 thanks Lexington-Fayette Urban County Government for the RFP invitation and opportunity to share our expertise and capabilities. We look forward to working with your team in your Information Technology Consulting and Technical Services journey.

IT is an ever-changing landscape and selecting the right path for your IT journey should not be a daunting exercise. We are confident that in partnership with Trace3, Lexington-Fayette Urban County Government's path will be clearly defined by prioritizing actional steps to exceed expectations within the county and community. We look forward to collaborating with Lexington-Fayette Urban County Government on this initiative.

7. Appendices

- I. Required Documents
 - a. Affirmative action Plan
 - b. Current Work Force Analysis Form
 - c. Affidavit
 - d. Equal Opportunity Agreement
 - e. LFUCG GFE
 - f. LFUCG MWDE Participation Form
 - g. LFUCG MWDBE Quote Summary Form
 - h. Lexington-Fayette Urban County Government T3 Exceptions
 - i. Attachment A & B
- II. Trace3 Practice Areas
 - a. Artificial Intelligence
 - i. Artificial Intelligence
 - ii. AI for Business
 - b. Cloud
 - i. Cloud Solutions
 - ii. Cloud Assessment Services
 - iii. SAMPLE – Cloud Adoption Framework and Strategic Roadmap
 - c. Consulting
 - i. Management Consulting Division Overview
 - d. Data Intelligence
 - i. Self-Service BI: From Source to Solution
 - e. Infrastructure
 - i. Infrastructure Network Assessment
 - f. Intelligent Operations
 - i. Intelligent Operations
 - ii. Leadership Session
 - g. Managed Services
 - i. Managed Services Overview
 - h. Security
 - i. Security Solutions.pdf
 - ii. Executive Security Services.pdf
 - iii. Identity-Access-Management.pdf
 - iv. Data-Security.pdf
 - v. Security_Architecture_Engineering.pdf
 - vi. Security-Intelligence V2_091420.pdf
 - vii. DevSecOps.pdf
 - viii. Endpoint-Data.pdf
 - ix. Incident-Response.pdf
 - x. Security-Operations.pdf
 - xi. Governance-Risk-Compliance.pdf
 1. GRC – Solution Overview – Assessment.pdf
 2. GRC – Solution Overview – BCP.pdf

3. GRC - Solution Overview – Governance.pdf
4. GRC – Solution Overview – Rapid Security Assessment.pdf
5. GRC – Solution Overview – VM.pdf
- xii. Social-Engineering_Pen-Testing-Report_RDACT_77984.pdf
- xiii. Trace3 Security Services Overview 2021.pdf
- xiv. Sample Draft Proposal - Security 360 Security Subscription
- xv. Customer Sample – Cyber Defense Risk Report
- xvi. CISSP Flyer
- xvii. Central – Cyber Defense Quarterly Table Top Drills
- xviii. NIST-CSF QuickStart
- i. Trace3 Line Card