

SUPPORTING YOUR LABORATORY INFORMATICS ECOSYSTEM WITH LABORATORY INFORMATICS AS A SERVICE (LIAAS)

ASTRIX APPROACH TO MSP
JANUARY 28,2020





ASTRIX OVERVIEW

ASTRIX APPROACH
JANUARY 28, 2020



COMPANY SNAPSHOT

“Informatics Professional Services and Staffing Company Dedicated to Servicing the Scientific Community”



Quick Stats:

- Established in 1995, privately held
- Originated as the IT Division of APBI - \$300 MM life science research organization
- Eight offices and >650 employees
- Headquarters: Red Bank, NJ
- **Staffing Division** offers private and public staffing of scientific and IT resources
- **Professional Services Division** focused on supporting science based organizations

Target Customers:

F1000 life science enterprises, government and research institutions with large & fast-growing IT, staffing, and compliance needs.

Mission:

To deliver scalable, sustainable solutions in IT and staffing for the scientific community

OUR END-TO-END SERVICES SPAN THE COMPLETE LIFECYCLE OF YOUR SCIENTIFIC DATA SYSTEMS



Business Process Analysis

Astrix will ensure your informatics projects meet business needs



Enterprise Architecture

Your successful project begins with the right design



Lab Technology Selection Services

Choose the technology solution that best meets your requirements



Development and Implementation

Design and implement your system on time and within budget



Computer Systems Validation

Ensure your systems meet FDA regulatory guidance



360 Degree Laboratory System Services

Customized, pay as you go solutions for laboratory software and hardware



Scientific and Technical Staffing Services

Specialized staffing services for scientific and technical resources

***Evaluate, Implement and Manage Systems To Enhance
The Collection and Processing Of Scientific Data***

NO OTHER PROVIDER BRINGS OUR DEPTH AND BREADTH OF SCIENTIFIC AND LABORATORY INFORMATICS EXPERTISE

STRATEGIC PLANNING

- Business Case
- Application
- Data Migration
- Solution Options
- Vendor Selection
- Roadmaps
- Risk Analysis
- Enterprise Architectures

COMPLIANCE & QUALITY

- Assessments
- Risk Management Framework
- Risk Mitigation and Remediation
- Quality Management
- Organizational Governance
- HIPAA, GxP, FISMA, ISO

PROFESSIONAL SERVICES

- COTS Evaluations
 - LIMS
 - LES
 - ELN
 - CDS
 - SDMS
- Business Analysis
- Project Management
- Validation
- Integration Planning

MANAGED SERVICES

- Laboratory Operations
- Staffing Vendor Management
- Information Technology
- Solution as a Service

DEV/IMPLEMENTATION

- System Implementation
- Integration
- Data Migration
- Custom Development
- Cloud Migrations



SELECTION OF LIFE SCIENCE SECTOR CLIENTS



SUPPORTING YOUR LABORATORY INFORMATICS ECOSYSTEM WITH LABORATORY INFORMATICS AS A SERVICE (LIAAS)

ASTRIX APPROACH TO MSP DELIVERY

JANUARY 28, 2020



EVOLUTION OF LIFE SCIENCE STAFFING

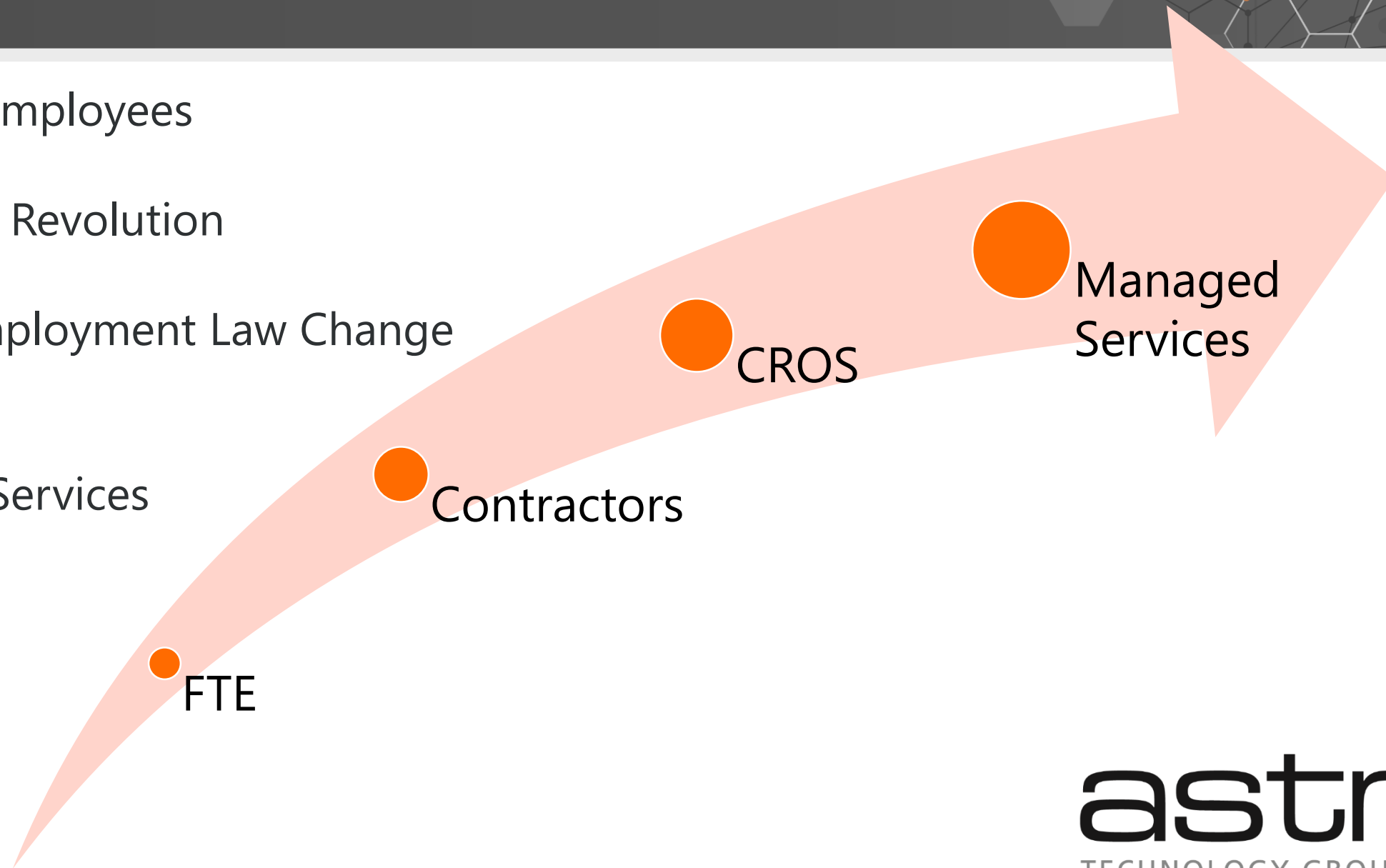
- ▶ Full Time Employees

- ▶ Contractor Revolution

- ▶ Federal Employment Law Change

- ▶ CROs

- ▶ Managed Services



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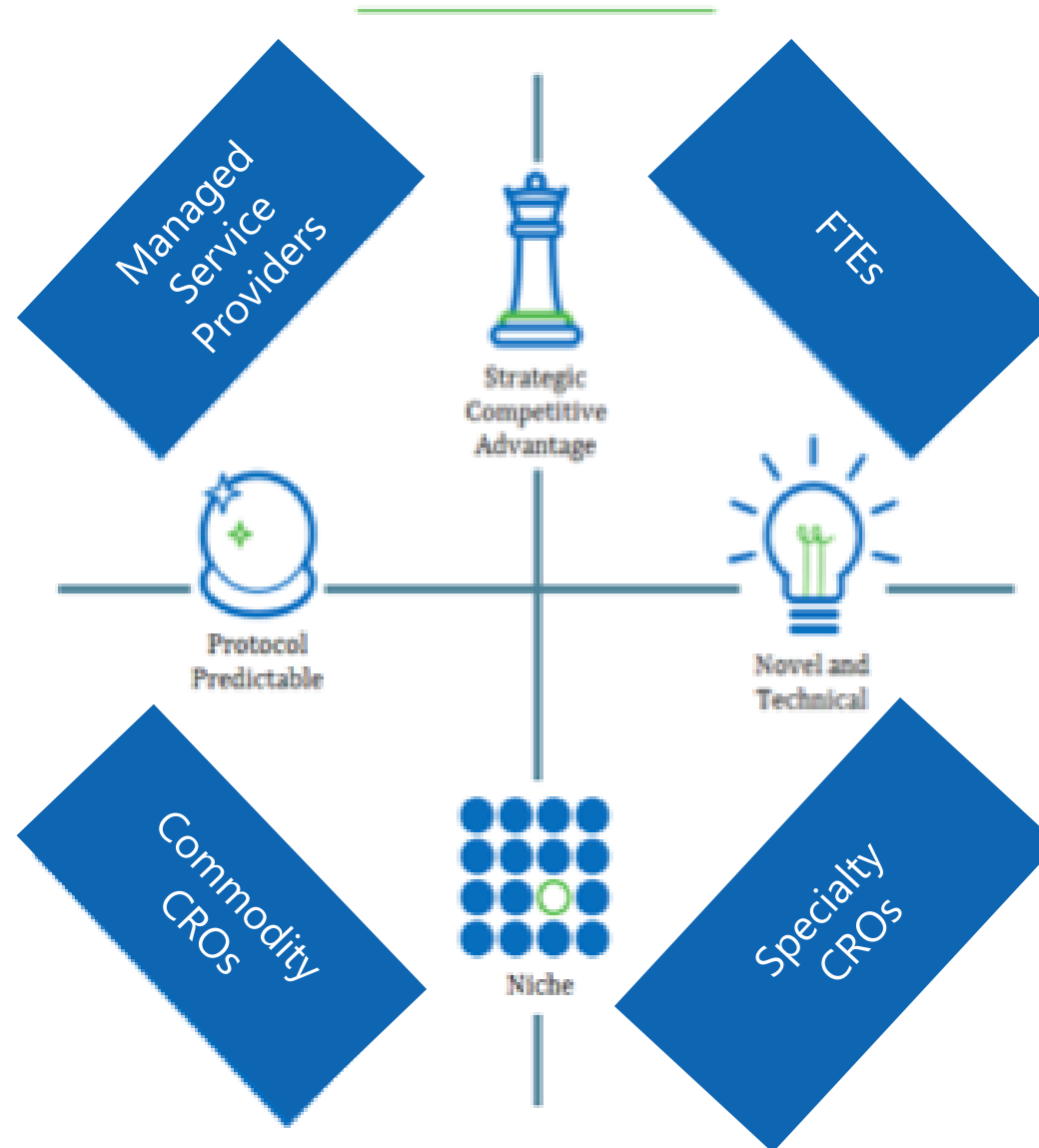
MODERN APPROACH TO LIFE SCIENCES

Platform Support Capacity

- Important, foundational
- Non-core

Predictable Work

- Protocol-driven
- Offsite, leverage CRO investment



In-House Expertise

- Complex and technical contribution
- Most competitive difference makers

Niche Analyses

- Expertise
- Rare need

TEAM AUGMENTATION – DELIVER A RESOURCE

- Committed to providing a resource
- Pricing is tied to hours delivered
- No service delivery commitments
- Client manages resource
- Delivery risk remains with the client
- Knowledge is documented and transferable
- Optimal for short term delivery

MANAGED SERVICES SUPPORT MODEL – DELIVER AN OUTCOME

- Committed to delivery of scope and term
- Pricing is tied to service level performance
- Service delivery is relative to defined SLAs and KPIs
- Resource management is controlled by provider
- Delivery risk remains with the provider
- Optimal for delivery of long-term sustainable services
- Optimal for delivery of long-term sustainable services

EXAMPLES OF MANAGED SERVICES

- ▶ Cafeteria staff
- ▶ Housekeeping
- ▶ Building and Site Maintenance
- ▶ Asset Management
- ▶ Scientific Support Functions
- ▶ Procurement



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Why not Life Science IT Support Functions?



WHY LIFE SCIENCE IT MANAGED SERVICES?

- ▶ Designed to **fit the specific needs** of the business
- ▶ Provides **access to broader teams** of industry experts and specialists
- ▶ Supported from services **methodology** based on industry best practices
- ▶ **Shifts responsibility** of execution to the MSP partner
- ▶ Managed through robust **governance** and reporting
- ▶ Controlled through **legally binding SLA** to guarantee uptime and quality of service
- ▶ Enables **budgeting** for flat, stable, monthly rate of service
- ▶ Retains **flexibility** to expand or contract the service with the needs of the business
- ▶ Supports your ability to **focus on strategy and requirements**



MANAGED SERVICES FRAMEWORK – SELECTION CONSIDERATION

I. Service Strategy

- ▶ Determine approach to service delivery
- ▶ Review and understand the associated costs and risks, and confirm target markets

II. Service Design

- ▶ Assess the environment w/r to the needs for support
- ▶ Set forth the application support plan w/r to deliverables, SLAs, Governance and Executive Committee

III. Service Transition

- ▶ Establish a Transition Plan to include knowledge transfer, service shadowing, and business engagement
- ▶ Develop and execute a Communication Plan to ensure that all parties understand the transition activities

IV. Service Operation

- ▶ Execute on the established MSP Run Book
- ▶ Measure and report on all activities

V. Continual Service Improvement

- ▶ Assess ongoing service activities
- ▶ Identify and mitigate areas for improvement

I. SERVICE STRATEGY

Intentional Investment in the Life Science IT MSP space

- ▶ Extends 20+ years traditional recruiting and team augmentation business
- ▶ Capitalize on being the largest technology agnostic, Life Science IT service provider
- ▶ Leverage Life Science IT domain expertise possessed across company
- ▶ Utilize partner network with scientific software and instrument vendors
- ▶ Provide opportunity to evolve relationship to be a more strategic partner with our Life Science clients
- ▶ Reduce risk of successful delivery as resources as more familiar with local environments and culture
- ▶ Develop foundation for our Life Science clients to staff more project and ad hoc work



II. SERVICE DESIGN STARTS WITH CURRENT ENVIRONMENT

Assessment – Establish IT baseline of the current service is..... against the target goal

- Review current methodology and business process maps
- Establish new business process maps if the environment is changing
- Collaborate with the stakeholders to capture all requirements
- Understand the culture of the laboratories to ensure fit

SERVICE DESIGN MUTUALLY BENEFICIAL PROCESS

Alignment - Synchronize business goals with IT and business priorities, standardized processes, improve communication and productivity resulting in better end-user services

- Service built on mutually agreed upon deliverables
- Deliverables set in the service catalog or run book - All tasks have defined start and stop point
- Capture all service delivery roles and responsibilities

Risk Management - Reduce risk by providing cross-project visibility to quality metrics and services re-use, by continuously monitoring the status of testing and service development

- Vigilant around scope creep and changes to the service delivery expectations
- Engage business and scientific stakeholder for input and feedback
- Manage through weekly reporting an engagement with client

SERVICE DESIGN FOR LONG TERM SUCCESS

Governance – Essential to the successful execution of the MSP

Joint Executive Alignment – responsible for vision and direction of the MSP Partnership

- Steers relationship and sets strategic roadmap for improvement
- Meet twice annually

MSP Managing Director – partnered with your MSP Leader

- Advise/Evaluate impact of proposed operational changes
- Conduct quarterly and monthly service reviews

Operational Delivery Leader – Measures effectiveness and efficiency of delivery teams

- Turns activities into procedures
- Delivers daily scrum and weekly service reviews

III. SERVICE TRANSITION - MAKE A GOOD FIRST IMPRESSION

Build the **Transition Plan** from the initial Assessment, Alignment

- ▶ Document the people, process, and technologies at stake
- ▶ Ensure existing knowledge is retained and verified as correct
- ▶ Manage risk continuously – must maintain IT service level during transition
- ▶ Define the agreed upon timelines for the transition period

Develop a **Communication Plan** to ensure transparency across the entire transition

- ▶ Focus on all stakeholders and process rather than just the technical requirements
- ▶ Understand all relationships – Who does what? Who needs what? why? and by when?
- ▶ Work on targeted staff retention when possible
- ▶ Commence governance meetings to review progress

Managed **Service Operation Transitions**

- ▶ Engage all adjacent stakeholder to develop extended support team
- ▶ Coordinate opportunity for shadowing of existing services
- ▶ Commence metrics capture and reporting
- ▶ Document all steps and process

SERVICE TRANSITION – RESOURCE STAFFING

Access to the Talent – Ensure the partner has critical mass of experience

- Onsite – dedicated
- Offsite – remote with ability to come onsite
- Near shore – Costa Rica and Brazil

Invest in MSP Employees – focus on long term staff development and relationship

- Utilize internal and external training programs to develop staff
- Dedicated leadership around service delivery
- Defined customer onboarding and off boarding process

Committed to Growing the MSP - Ensure we meet the demands of the business

- Recruiting engine fueled by 32 full time Astrix recruiting resources
- Access to pool of consultants to managed service demand
- Cultivate staffing, service and technology partnerships to augment the MSP

SERVICE TRANSITION – CRITICAL MASS OF EXPERTISE

ThermoFisher
SCIENTIFIC

Arxspan


PerkinElmer

 **CHEMWARE**
A Dohmen Company

 **amazon**
web services

 **LABWARE**
Results Count

 **Spotfire**[®]
TIBCO Software

 **idbs**

PRŌMIUM

 **Agilent Technologies**

 **BIOVIA**

 **dotmatics**
knowledge solutions

Lonza

 **LABWORKS**

 **sas**

 **jmp**
Statistical Discovery™ From SAS

 **AREVA**

 **LabVantage**[®]

CORE | LIMS™

 **DASSAULT**
SYSTEMES

Waters
THE SCIENCE OF WHAT'S POSSIBLE.®

 **+ a b l e a u**[®]

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IV. SERVICE OPERATIONS – ALL BASED ON THE METHODOLOGY

Practice Areas - Center of Excellence -

Drives all MSP per industry best practice

Run Book - Documented process to support all service delivery activity

Program Management Office – Maintains oversight of all MSP

Increase Efficiencies - Optimize operational efficiency across projects by implementing consistent, repeatable processes



SERVICE DELIVERY - HIGH LEVEL SERVICE TICKET OPERATIONS

Event Management - To make sure services are constantly monitored, and to filter and categorize Events in order to decide on appropriate actions.

Incident Management - To manage the lifecycle of all Incidents. The primary objective of is to return the IT service to users as quickly as possible.

Request Fulfilment - To fulfill Service Requests, which in most cases are minor (standard) Changes (e.g. requests to change a password) or requests for information.

Access Management - To grant authorized users the right to use a system or service, while preventing access to non-authorized users. The processes essentially execute policies defined in Information Security Management.

Problem Management - To manage the lifecycle of all Problems. The primary objectives of Problem Management are to prevent Incidents from happening, and to minimize the impact of incidents that cannot be prevented. Proactive Problem Management analyzes Incident Records, and uses data collected by other IT Service Management processes to identify trends or significant Problems.

SERVICE DELIVERY – MATCH WITH ITIL DEFINITIONS

Tier 1

- ▶ Lowest level of MSP support
- ▶ Primary delivered by customer's help desk
- ▶ Route tickets to Astrix Life Science IT MSP

Tier 2

- ▶ Address Incident and Request tickets through the queue
- ▶ Provide in-depth troubleshooting, technical analysis, and support from the backend
- ▶ Escalate when expert product knowledge is required

Tier 3

- ▶ Delivered by a Subject Matter Expert (SME) on the product or service in question
- ▶ Perform root cause analysis to address issues raised through Problem Management
- ▶ Escalate to third party vendor as needed

Tier 4

- ▶ Engage Third party vendors for product or service solution

V. CONTINUAL SERVICE IMPROVEMENT – OUTCOME BASED DELIVERY

Design to Exceed all Expectations

- Track all MSP activities
- Identify trends early in the process
- Execute RCA/modify behavior to avoid repeat incidents
- Report operational performance against SLAs and KPIs
- Contribute to audits as needed
- Survey customers to ensure all needs are being met
- Forecast financials across quarter, yr
- Assist with annual budgetary planning

SLID	TYPE	SLA Name/ Description	SLA Target	Trend Line	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18
AO01	SLA	AO01 - Application Availability Management - Production System			MET	MET	MET	MET	MET	MET
		Gold	99.95%		100.00%	100.00%	99.99%	100.00%	100.00%	100.00%
		Silver	99.25%		100.00%	100.00%	99.99%	100.00%	100.00%	100.00%
		Bronze	98.75%		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
AO02	KPI	AO02 - Incident Response Time - P1	95.00%		ND	ND	ND	ND	ND	ND
AO03	KPI	AO03 - Incident Response Time - P2	95.00%		ND	ND	ND	ND	80.00%	ND
AO03A	KPI	AO03A - Incident Response Time - P3 & P4	95.00%		ND	ND	ND	ND	80.05%	84.39%
AO04	SLA	AO04 - Incident Resolution Time - P1	95.00%		NA	100.00%	100.00%	ND	ND	ND
AO05	SLA	AO05 - Incident Resolution Time - P2	95.00%		100.00%	100.00%	NA	100.00%	100.00%	ND
AO06	SLA	AO06 - Incident Resolution Time - P3	90.00%		99.72%	96.65%	93.40%	95.45%	100.00%	100.00%
AO07	SLA	AO07 - Incident Resolution Time - P4	90.00%		99.87%	98.04%	94.61%	93.89%	98.64%	98.37%
AO07A	SLA	AO07A - Service Request Resolution Time	95.00%		99.31%	99.91%	97.87%	96.86%	99.16%	97.71%
AO08	KPI	AO08 - Major Incident Report Completion - Root Cause Analysis	90.00%		NA	NA	100.00%	ND	ND	ND
AO09	SLA	AO09 - Root Cause Identification	85.00%		100.00%	100.00%	100.00%	ND	100.00%	100.00%
AO10	SLA	AO10 - % Successful Changes	95.00%		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
AO12	KPI	AO12 - Documentation	90.00%		100.00%	100.00%	100.00%	100.00%	94.44%	100.00%
AO13	KPI	AO13 - Change Request	90.00%		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
AO14	KPI	AO14 - Number of Reopened tickets	10.00%		0.00%	0.00%	0.00%	0.68%	1.09%	0.65%

SLID	Type	SLA Name/ Description	SLA Target	Trend Line	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18
CF01	KPI	CF01 - Status Updates	98.00%		100%	100%	100%	100%	100%	100%
CF02	KPI	CF02 - Financials	98.00%		100%	100%	100%	100%	100%	100%
CF03	SLA	CF03 - BIIB Training	100.00%		100%	100%	100%	100%	100%	100%
CF05	KPI	CF05 - Attrition of Resources	20.00%		0%	0%	0%	0%	1%	3%
CF06	KPI	CF06 - Technical Training	95.00%		NA	NA	NA	NA	NA	NA
CF07	KPI	CF07 - Invoicing Timeliness and Formatting	80.00%		100%	100%	100%	100%	100%	100%
CF08	KPI	CF08 - Invoicing Accuracy	90.00%		100%	100%	100%	100%	100%	100%
CF09	KPI	CF09 - Administrative Commitment	90.00%		100%	100%	100%	100%	100%	100%
CF10	KPI	CF10 - Audit Findings	100.00%		NA	NA	NA	NA	NA	100%
CF11	SLA	CF11 - Process violation - change Management policy	100.00%		NA	NA	100%	NA	NA	100%

- * Demonstrate MSP service delivery gains efficiency over time

CONTINUAL SERVICE IMPROVEMENT - PROGRAM SUSTAINABILITY

Financial – Manage the bottom line across many views

- **Value Gains** – Leverage the Astrix experience across multiple life science companies such that the MSP provides more than a single resource
- **Manage Costs** – Managed and potentially reduce costs by implementing a resource strategy using qualified technical and business experts with the appropriate skills

Environmental – Seek an MSP Partner with the right cultural fit

- **Partnership** – Mutual success essential to productive relationship
- **Flexibility** – Understand the program evolves to stay current with the needs of the business



ASTRIX LIFE SCIENCE IT MANAGED SERVICES – DOMAIN EXPERTISE

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THE ASTRIX MSP APPROACH

Establish a proven methodology to deliver successful, repeatable, managed services

- ▶ Engage IT Assessment & Business Process Mapping
- ▶ Evolve to architecture & service solution design
- ▶ Managed transition phase
- ▶ Excel at steady-state run execution
- ▶ Constantly monitor for continuous improvement



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- ▶ Laboratory Computing
- ▶ Scientific Application Support
- ▶ Project Management
- ▶ Business Analysts

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I. LABORATORY COMPUTING MSP

Support the unique IT needs in the laboratory

- Maintain asset inventory including equipment life-cycle, aging and priority designations
- Provision, remediate, and decommission laboratory PCs on a standard platform/image
- Coordinate OS patch management deployments
- Manage backup and recovery processes across the laboratory
- Execute Info Security risk mitigation including anti-virus, firewall, and network access
- Troubleshoot issues between PC and instrument assets and escalate to host instrument vendors
- Migrate Windows XP, 7 OS systems to Windows 10 while managing asset for end of life isolation
- Provide computer system validation services across all GxP laboratories
- Document all process

II. SCIENTIFIC APPLICATION SUPPORT MSP

Support the needs of the scientist

- Maintain software inventory
 - Track license renewals
- Manage user control access and authorization
 - Provide access to applications across the lab environment including GxP
- Proactively monitor enterprise system availability
 - Stay ahead of system downtime
- Troubleshoot issues between software, hardware, instruments and environment
 - Advocate for the system and host instrument vendors
- Provide Tier 1 and Tier 2 support across the full spectrum of life science applications
 - Record requests, incidents through ticket help desk
- Deliver Tier 3 support on focused list of enterprise systems
 - Practices and partnerships established around select application

EXAMPLES OF TIER 3 COTS SCIENTIFIC APPLICATION SUPPORT

ELN

- IDBS BioBook
- Benchling ELN
- Labware ELN
- LabVantage ELN
- PerkinElmer ELN

LIMS

- Labware LIMS
- StarLIMS
- LabVantage LIMS
- Sapio LIMS
- ThermoFisher Core LIMS
- SQL LIMS

Assay Data Capture

- IDBS ActivityBase
- GeneData Screener

CDS

- Waters Empower
- ThermoFisher SampleManger

SDMS

- Waters Nugenesis

Data Visualization

- R
- Matlab
- Tibco SpotFire
- Tableau

Chem Informatics

- Chem Reg
- Certara D360
- Biovia Accord

Data Pipeline Tools

- Biovia Pipeline Pilot

HCS Image Analysis and Store

- PerkinElmer Columbus

Genomics

- GeneData Expressionist
- SevenBridges
- DNA NExus

III. LIFE SCIENCE IT PROJECT MANAGEMENT MSP

Supportive PM MSP

- Fits best for an organization where projects are done successfully in a loosely controlled manner and where additional control is deemed unnecessary
- Delivery is primarily a support service that collects, compiles, and reports on information

Governance PMO MSP

- Responsible for defining and controlling use of methodologies, standards, templates, and policies
- Fits best when there is a desire to rein in activities, processes, procedures, and documentation

Directive PM MSP

- Accountable for the project management function within the company
- Responsible for providing program and project management resources

Complete PMO & PM MSP

- Couple the Directive with the Governance PM MSP model to provide complete PMO/PM function
- Effective in larger organizations that often matrix out support in various areas

IV. LIFE SCIENCE IT BUSINESS ANALYST MSP

Scientists helping scientists gain access to the right technology

Analysis of the domain and business processes

- Provide experience IT professionals who have science backgrounds
- Define the as-is state and the to-be outcome

Execute a detailed requirements gathering

- Document use cases
- Leverage our database of requirements to bring additional context to the ask of the business

Facilitate technology selections

- Design, create and deliver RFI, RFP, RFS...
- Execute the technology selection process through interaction with business and vendors

Manage the solution deployment

- Prototype areas requiring further deep dives
- Drive deployment through testing and user acceptance

ASTRIX LIFE SCIENCE IT DIFFERENCE

The Astrix Difference

- **The Astrix Approach™** – Our proven methodology helps you maximize the business value of your informatics ecosystem.
- **Extensive Experience** – Astrix has been a leader in scientific informatics services (consulting, technology and operations) for over two decades.
- **Domain Knowledge and Technology Expertise** – Our professionals have deep scientific domain knowledge, along with expertise across hundreds of platforms, from COTS solutions to custom applications.
- **Drive the Innovation Cycle** - Our experience provides us with the deep understanding of data, systems and labs required to help you unlock valuable insights.
- **Full Lifecycle Support** – We have the right blend of expertise to work across the research, development, quality and manufacturing.

How We Partner for Success

- **Future-State Vision & Informatics Roadmap** – We engage with key stakeholders to jointly craft a vision of a Digitally enabled laboratory along with a roadmap to deployment.
- **Requirements Driven Results** – Astrix professionals deliver results that are measurable and solutions that are customized to your requirements.
- **Regulatory Compliance** – As experts in IT risk and regulatory compliance, we help you identify regulatory risk, develop robust mitigation plans, and make critical change impact assessments.
- **Minimizing Disruptions to Your Business** – We work quickly, but effectively, minimizing disruptions while addressing our clients' key objectives.



LET'S EXPLORE HOW WE MAY PARTNER TOGETHER TO MEET YOUR BUSINESS NEEDS

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