

UPMC Enterprises Technology Services

UPMC Enterprises



Transforming ideas into
thriving businesses and
life changing medicine

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UPMC Enterprises is the innovation, commercialization, and venture capital arm of UPMC, a \$24 billion health care provider and insurer based in Pittsburgh, PA. To deliver on our mission to transform ideas into thriving business and life changing medicine, we leverage the clinical acumen of thousands of UPMC physicians and rely on payer perspectives from the UPMC Health Plan with over 4 million members.

These relationships and resources allow us to monitor emerging trends in health care and to identify, support, and commercialize scientific breakthroughs that translate into significant improvements in medical care and technology.

Focusing our efforts in two key areas, Digital Solutions and Translational Sciences, we invest financial and intellectual capital into developing solutions that benefit the entire health care industry. We have a diverse portfolio, supporting both early and growth stage companies with a wealth of expertise from across our health system. At UPMC Enterprises, we provide strategic, technical, and financial insights to build innovative products and launch novel technologies that solve health care's biggest challenges.

UPMC Enterprises Technology Services

UPMC Enterprises Technology Services offers a comprehensive suite of services to help your business solve problems, create innovative solutions, and deliver outcomes. We work closely with organizations to manage and accelerate their technology efforts by leveraging our knowledge and experience to expedite and optimize projects – while simultaneously reducing both their risk and cost. We support all stages of a health care technology venture's lifecycle with strategic, implementation, and operational support services.



Digital Services

Our target audience.

We support companies at all stages of the venture lifecycle with a broad roster of services.



Experienced entrepreneurs with an idea looking to start a new venture



Late-stage companies in need of targeted skill augmentation



Early-stage companies attempting to further develop a business and product strategy



Venture organizations seeking value-add investment partners

About UPMC Enterprises



**Strategic
Services**

**Professional
Services**

**Custom
Solutions**

**Production
Services**

**Security and
Compliance**

UPMC Technology Services offering categories

Our services are organized into five categories: strategic services, professional services, custom solutions, production services, and security and compliance management.

Technical and Business Expertise

We offer immediate access to a network of highly skilled subject matter experts (SMEs), deeply knowledgeable in health care technology and state-of-the-art engineering. Our staff has years of experience supporting UPMC and has extensive industry knowledge. We also draw on UPMC's network of professionals and relationships with thought leaders who can help you solve the unique problems of your organization. Our services span project management, data engineering, solutions architecture, product design, product roadmapping, security, and risk management, as well as cloud infrastructure.

Institutional Knowledge

UPMC Enterprises offers access to the "living lab" of the real-world work of 3,700 physicians. We have the institutional knowledge to guide you through health care's complex technical and business environments.

A Trusted Partner: Services Built for Startups

We offer the flexibility to meet the demands of your business – as customer needs and market forces shift, we can scale up our services rapidly to accelerate your project delivery and reduce time-to-market. Our services are designed to help startups pursue their strategic objectives while maintaining a lean operation. We work closely with UPMC portfolio companies, investment partners, and affiliates – and are invested in the success of your business. We understand the unique needs of your organization and are dedicated to helping you reach your goals.

Service Offerings

We have structured our services to support the most important aspects of your project – from inception and oversight to implementation and management, they are designed to help ensure your successful delivery.



Strategic Services

We provide recommendations and plans to help you leverage technology to meet your business goals. Service offerings include:

Technical Feasibility Assessment

Evaluation of the technical barriers and opportunities to the realization of a new idea

Product Evaluation and Technical Due Diligence

Expert analysis of the viability of new investments



Professional Services

We offer consultative services to help you run the most efficient business operation possible. Service offerings include:

Program/Project Support for UPMC System Deployments

Administrative support for the launch of new systems or services

Software Development Lifecycle (SDLC) Best Practices

Assessments of SDLC maturity and recommendations for improvement

Technology Advisory Services

Expert advice on a comprehensive range of technical disciplines



Custom Solutions

We offer highly flexible and rapid custom solution services in support of proof-of-concept development. Our team can provide mentorship and management support through our professional services offerings – or we can directly build your prototype. Our service offerings include:

Product Design and Proof-of-Concept Services

Support the definition of design concepts and the building of POCs in an iterative, user-research-driven process

UPMC Clinical Data Engineering Services

Expert advice on the identification, acquisition, and delivery of clinical data sets

UPMC Enterprises Technology Services



Production Services

We enable our partners to deploy and run production workloads to meet current and anticipated business demands. Service offerings include:

Alexandria Charts Services

A scalable, enterprise-grade platform for provider and payer unstructured data. Alexandria Charts is available as Software as a Service (SaaS) in a multi-tenant cloud configuration or may be licensed and self-hosted in your data center

Application Support and Maintenance

Support and maintenance for actively used UPMC Enterprises applications where UPMC IT and/or supply chain groups lack the necessary expertise

IT Support for Business Operations

Assessment of your IT infrastructure needs (e.g., phone, cabling, internet, networking) designed to accelerate your startup

Managed Services for the Cloud

Secure, scalable, and reliable cloud solutions built on Amazon Web Services (AWS) technology



Security and Compliance Services

We offer infrastructure and services that provide security, data integrity, and compliance for institutional activities. They include information risk management, audit and monitoring systems and services, and data access and stewardship.

Service offerings include:

IT Risk Rapid Assessment

A web-based questionnaire that offers a preliminary measure of an organization's readiness for HITRUST certification

HITRUST Common Security Framework (CSF) Assessment Support

Coordination of the HITRUST CSF certification process

IT General Control Assessment

Assessment of the overall security risk posture of an organization

Incident Response (IR) Management

Coordination of activities to mitigate security breaches and IR planning



STRATEGIC SERVICES

Technical Feasibility Assessment

You have a transformational idea – but an idea is just the beginning. New technology can be complicated and the path to realization is marked with pitfalls at every stage. You need a partner who intimately understands the complexities of technology and the health care environment.

The UPMC Enterprises technical feasibility assessment will help gauge the viability of your idea. We start by identifying the business problems your idea aims to solve and evaluate their complexity. Our team consults with SMEs who can assess the technical feasibility of your idea and analyze its operational landscape. We rely on close relationships with a network of experts across UPMC who possess specialized knowledge in information technology, information security, infrastructure, software development, and integrations.

If your idea is feasible, we can help you get started building it. We will develop a blueprint for delivery and define an optimal technical approach to implementation. We can also determine what kind of team you will need, how long the project will take, and how much it will cost.

Value Proposition

We help you take the first step towards the realization of your idea. We have the expertise and experience to evaluate the technical feasibility of your proposal, identify alternative approaches, and provide you with actionable plans

Service Deliverables

We produce a technology feasibility assessment report that evaluates a technology approach to your business problem.

Before your organization commits to a new investment, you want the best possible understanding of the prospective product or company. Our product evaluation and technical due diligence services give investment partners and portfolio companies the information they need to fine tune their investment approach.

Our team employs a well-defined evaluation process and engagement model that is efficient, fast, repeatable, and objective. We identify the company's strengths and weaknesses, as well as evaluate prospective paths to growth. Our consistent approach makes it easier to compare and share evaluations across the organization and promotes good communication.

Value Proposition

We quickly and efficiently provide you the information you need to make sound investment decisions. We employ a standardized process that produces deliverables that are easy to share and compare – and promotes better communication within and between evaluation teams.

Service Deliverables

The team will conduct status updates with the key stakeholders, either in writing or as a briefing, to discuss and solicit feedback

A completed technology evaluation checklist that covers these key areas:

- Product information
- Security information
- System information and architecture
- Cloud infrastructure and architecture
- SDLC process
- A final report of product evaluation and technical due diligence findings
- Executive readout and summary of recommendations

Product Evaluation and Technical Due Diligence

We evaluate many aspects of products, platforms, and technologies. These include:

**System Architecture**

Structural components and their relationships which constitute an overall system

**Technology Stack**

Technologies and their relationships used to build or run software

**SDLC Processes**

The activities that an organization adopts to develop, test, and deploy software

**Security and Compliance**

The activities that an organization uses to ensure that systems comply with security standards, policies, and regulations

**Infrastructure as Code**

The provisioning of infrastructure (servers, networking, etc.) through machine-readable definition files

**Health care and Information Technology Standards Compliance**

Compliance to health- and technology-related standards, policies, and regulations

**Solution Interoperability**

The ability of disparate computer systems to connect or exchange information, often through industry standard protocols

**Team Skill Level**

Analysis of the expertise in a technical group

**Cloud Implementation**

The maintenance of on-demand computer resources using cloud services

**Technical Debt**

The gap between the requirements as implemented and a full, robust solution (typically the result of deadlines and budget limitations)

**Scalability**

The capacity of a system to increase or decrease in performance as needed

**Supportability**

The ability of a team to provide operational support to a computer system over its whole product life

**Extensibility**

The capacity of a system to fulfill new capabilities or functionality

**Development, Security, and Operations (DevSecOps) Strategy**

An approach to security that automates the integration of security at every phase of the SDLC



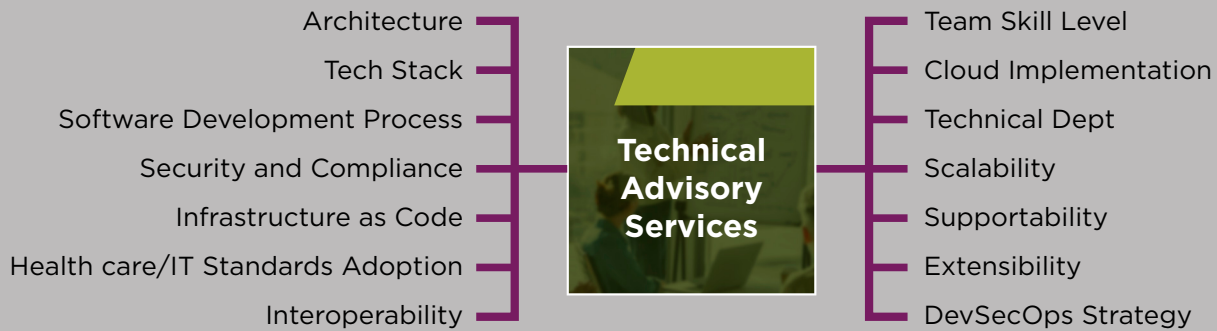
PROFESSIONAL SERVICES

Technology Advisory Services

If technological roadblocks are slowing delivery of your product – or you just want to find more efficient ways to work – we can help. Our technology experts have experience building high-performance and cost-sensitive systems – and we are intimately familiar with both health care and the UPMC environment.

Consult with us on any technology question. We have access to a diverse network of experts who can provide unbiased guidance on even the most specialized problems.

Examples of technology advisory services



Value Proposition

Depend on our expertise to enhance your technological capabilities, cut your R&D costs, and improve the quality of existing products.

Service Deliverables

An advisory report that contains the following:

- A summary of the advisory request
- A timeline of advisory process events and milestones
- Advisory proposal applicable artifacts (e.g., reference implementations, diagrams, drawings reports, etc.)

Whether it be the implementation of a software solution or the rollout of a new service, deployment is hard – but we can help. Navigating a large, complex organization like UPMC can be daunting if you do not have a clear understanding of the internal landscape. Fortunately, we offer resources to guide your team through UPMC's clinical and technical environments.

We will plan and manage UPMC's tasks to ensure a smooth and timely deployment. We will introduce you to the key operational, clinical, and IT stakeholders from across UPMC, including representatives from Security, Health Services Division Oversight, Enterprise Architecture, Data Governance, and Clinical departments. As we guide you through UPMC's divisions, our team will help you navigate their required approvals and signoffs.

We can also work with you to improve your implementation processes and drive business outcomes with your delivery. We will assess your needs and provide recommendations that create a repeatable and outcomes-driven implementation model for your organization.

Value Proposition

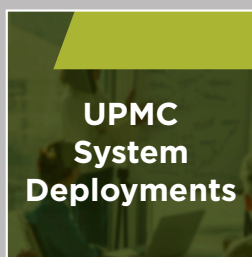
We introduce you to key resources, guide you through approvals and help you develop a plan that drives business outcomes. We can also help you mature your own implementation processes to streamline future deployments.

Service Deliverables

- A standard deployment methodology with associated processes, procedures, and templates
- Executive readouts with recommendations for the creation of a repeatable and outcomes-driven implementation model; we provide one readout at the half-way point and a second at the end of the engagement
- Enhancement of the customer's standard project plan with tasks required for a successful deployment at UPMC
- We help secure requisite approvals and signoffs from UPMC stakeholders (e.g., Security, Health Services Division Oversight, Enterprise Architecture, Data Governance, clinical departments, etc.)
- A single point of contact for coordination, communication, and escalation at UPMC

Program/Project Support for UPMC System Deployments

System deployments

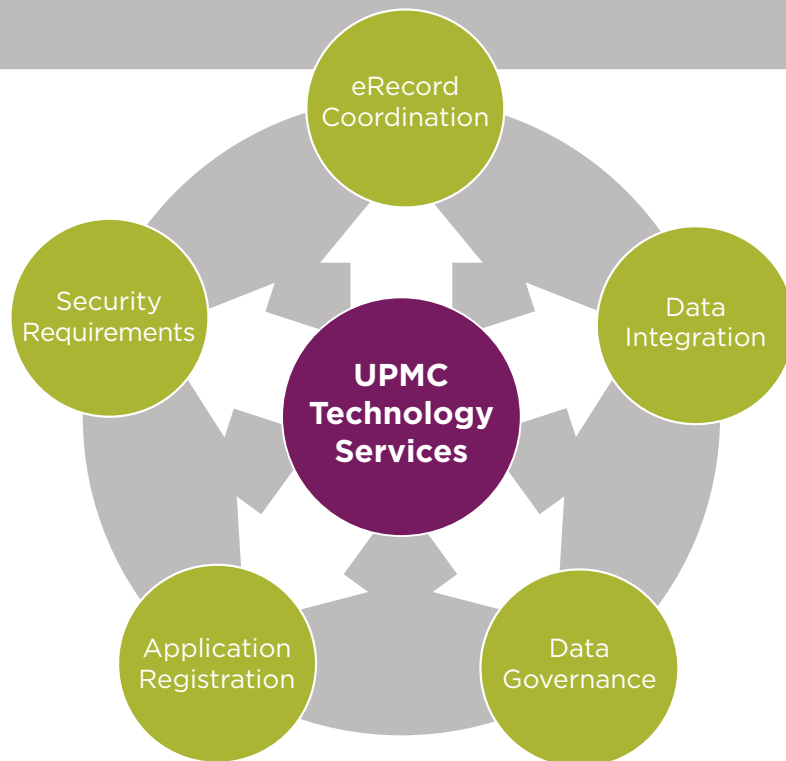


- Product Pilots
- Quality Initiatives (QI)
- Full Solution Implementation
- Facility Buildouts

A system deployment is a complex initiative that requires the coordination of people, information, or infrastructure. We support both the rollout of software implementations and new UPMC services.

IT focus areas.

We have relationships with all IT focus areas, including eRecord coordination, data integration, data governance, and application registration.



Creating good software requires using good processes, but the SDLC can be difficult to master. Our team has extensive expertise building, deploying, and scaling solutions consistent with industry best practices such as HITRUST. We provide detailed checklists to gauge SDLC maturity and deliver a final report that includes actionable steps to improve your processes

Value Proposition

A more mature process, and a deeper understanding of the health care ecosystem, will reduce time to delivery, increase quality, and improve customer satisfaction.

Service Deliverables

Representative service deliverables include:

- Template SDLC release checklist and process improvements
 - Test exit summary recommendations
 - Detailed team checklists
 - Vulnerability tracking and management
- Template Change Control Board (CCB) checklist and process improvements
- A final report that contains:
 - Specific actionable recommendations with links to industry standards or best practices
 - Code reviews, reference code, configurations, or pipelines

Software Development Lifecycle (SDLC) Best Practices

We can support any aspect of your SLDC.
Examples include:



Aligning your SDLC and operational procedures with HITRUST



Improving security, (master) data management, and traceability



Developing a Change Control Board (CCB) to improve customer satisfaction and minimize data risk



Strengthening service quality and system reliability



Aligning product capability with Health Insurance Portability and Accountability Act (HIPAA) compliance and best practices



Improving back-end system monitoring, incident triage, and response management



Bolstering automation, continuous integration, and continuous delivery to improve team velocity, quality, and customer satisfaction



Optimizing environment costs across development, test, stage, and production



Strengthening security and quality coding practices (e.g., Static Analysis Security Testing (SAST), Dynamic Application and Security Testing (DAST), pair programming, and code review workflows and culture)



Fostering a more efficient application of agile development practices (e.g., Kanban and scrum in health care)



Bolstering code management, branching strategies, release tag management, and deployment trust chains



Aligning your product backlog to developer activities, requirements traceability, and source repository branching



Increasing team velocity, organization, cohesion, planning while reducing churn and productivity friction



CUSTOM SOLUTIONS

Product Design and Proof-of-Concept Services

Our design team combines creativity and rigor to help solve your business problems. We develop illustrations that flesh out an initial concept, and then build increasingly sophisticated mockups, wireframes, and POC's to bring your ideas to life.

We have years of experience developing commercial solutions for UPMC and our portfolio partners. We can also leverage a vast network of experts across UPMC to help solve specialized problems.

Our team works collaboratively to ensure that our designs can be transformed into a fully functional application. We can also assist your developers when front-end development begins.

Value Proposition

Our team has years of experience building commercial solutions for UPMC and our portfolio partners. By engaging with us, you will reduce uncertainty and increase your confidence in the quality of the product.

Service Deliverables

The following deliverables support our design process:

User Research

We start by identifying users and assessing how the design problem affects their workflows.

User Experience (UX) Audits

We evaluate your application(s) against established design patterns, review prior research, and then identify potential areas for usability improvement. An effective UX audit identifies issues that can be resolved to create a more seamless user journey.

Wireframes or Low-Fidelity Illustrations

We design low-fidelity visuals to outline an application's workflow – this is done alongside defining a high-level content strategy, page structure, and feature set.

Visual Design

We expand on a wireframe or low-fidelity illustration to build a more robust visual design which a potential user can evaluate – this might be a high-fidelity interface design of a new system, or a new design of an existing system.

POCs

We build POCs that demonstrate the real-world behavior and interactions of the application. POCs will focus on the interaction between interface components, which allows for refined user feedback. We may develop POCs quickly using low or no code tools or use our software development expertise to deliver an interactive prototype in the solution's technology stack

We can help you identify, collect, and deliver the clinical data that you need to take your ideas to the next level. Our team has over 50 years of UPMC clinical data and integration experience, which gives us insight into the nuances of clinical data and how it moves in a complex organization like UPMC.

We support projects of all sizes and complexity. Our team can work with you on everything from the smallest workflow or data set to the realization of ambitious patient stories that require the interoperability of numerous applications. We will assist your team with the correlation and integration of the data from multiple clinical source applications to assure accurate and consistent consumption and enhanced data quality.

Our support goes beyond data integration. We can implement comprehensive end-to-end data solutions that transform the source dataset to the desired format. Clinical support activities include:



Data Discovery

We define the who, what, where, when, and why of data



Data Architecture

We conduct standards-based or custom data pipeline design to optimally integrate your data



Data Evaluation

We analyze the data required to assess integration feasibility and refine data requirements



Technical Liaison

We maintain relationships with the UPMC Electronic Records (EMR) technical team

Value Proposition

You will receive extensive clinical data and interoperability expertise from a team highly skilled in existing and emergent health care standards. Our staff are certified as:

- HL7 CDA specialists
- HL7 V2.7, V2.6/2.5, and V2.5 (chapter 2) control specialists

We are also active participants in FHIR Dev Days and FHIR Connect-a-thons.

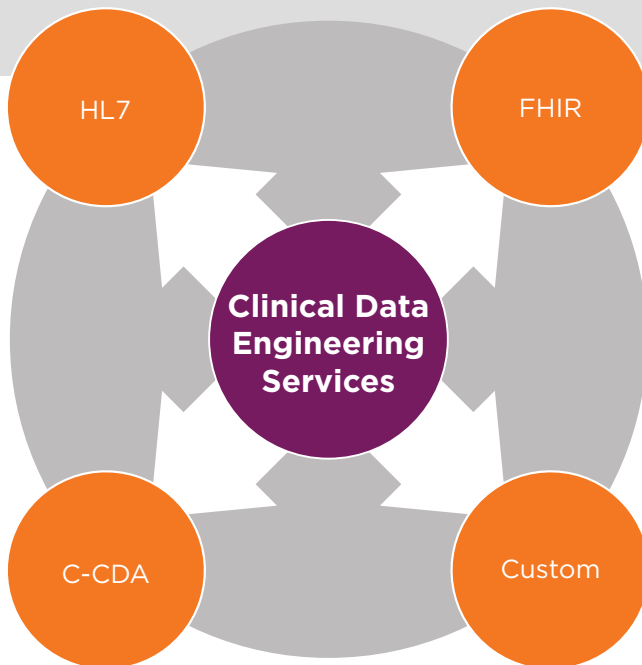
Service Deliverables

The business owner reviews and approves specifications and analytical work at stage gates for each phase of the project. This assures that final delivery meets their specific needs.

UPMC Clinical Data Engineering Services

Our team has expertise in a broad set of health care data standards and industry formats. We have extensive experience with standard and customized Health Level Seven (HL7) messages from over 50 clinical systems. We have mapped discrete data to the Fast Health Interoperability

Resources (FHIR) since 2019. We work on integrations using the Clinical Document Architecture (CDA), Consolidated-CDA (C-CDA), and Continuity of Care Document (CCD) formats. We can tackle custom integration formats including flat files, embedded links, and roster requests.



Interoperability health care standards expertise.

The background of the slide is a photograph of a person's hands typing on a laptop keyboard. Overlaid on this image is a semi-transparent purple grid. Within the grid, there are several icons: blue folder icons and white document icons with horizontal lines representing text. These icons are connected by thin white lines, suggesting a network or data flow. The overall color scheme is dark purple and blue.

PRODUCTION SERVICES

IT Support for Business Operations

Early-stage startups often lack the specialized technical experience to make key business decisions about IT strategy and tactics. Our team can help you quickly jump start your IT environment with minimal overhead, letting you focus on your core mission.

An experienced advisor will guide you through our IT Services Blueprint, a 50+ item checklist that will evaluate your operational readiness. The assessment covers the essential elements of your IT infrastructure, which includes cabling, internet, networking, phone, print, and other common services. The completed IT Services Blueprint will lay out the administrative tasks necessary to mature your IT infrastructure. As your organization develops, our team will continue to help you implement the IT Services Blueprint and improve your technical maturity.

We partner with Vertilocity, a company that specializes in health care business systems support. They offer the following services:



Proactive IT Support and Helpdesk Services

Receive proactive maintenance and support – and relieve yourself of the time and expense of maintaining your technology. Let their engineering team, helpdesk staff, and 24x7 monitoring of your network serve as your own dedicated IT department

Advanced Threat Protection

Ensure that your critical data is protected through a layered security solution that not only focuses on breach prevention but effectively stops and locks down an attack if it occurs; they offer anti-virus, email security, multi-factor authentication, and logging and monitoring – backed by a security operations center

Office 365 Management and Support

Microsoft-certified engineering staff to assist in the licensing, deployment, and support of your secure and protected Office 365 tenant

Collaboration Tools

Boost productivity and create a more collaborative workforce with SharePoint, Teams, and OneDrive

Hardware Procurement and Installation

Take the guesswork out of deciding which hardware to buy and how to have it installed

Value Proposition

We can jump start your IT infrastructure with minimal administrative overhead – letting you focus on your core mission.

Service Deliverables

- UPMC Enterprise's trusted advisor to guide you with the IT Service Blueprint
- Device management and desktop support
- 24x7 helpdesk support
- Security monitoring of your IT environment
- Network support
- Office 365 system administration and support
- Directory service management

Alexandria Charts is a scalable, enterprise grade multi-tenant cloud platform for storing, analyzing, and managing unstructured provider and payer data. Alexandria Charts captures data in near real-time – once a clinician has entered a note into an EMR it will typically be available in the cloud within seconds. The platform uses advanced capabilities to organize and analyze unstructured data, and includes support for:

Smart Document Ingestion

Tools for the management of duplicates and bad ingestions, document version control, document movement inference, and document cancellation

Optical Character Recognition (OCR)

The ability to extract structured text from scanned documents

Real-time Document Conversion

Documents are converted into multiple formats on load with high fidelity for uniform comparison and querying

Patient Crosswalks

The ability to link disparate documents from multiple sources to the same logical patient across identities

Data Quality Metrics

Automatically generated metrics that assess data source quality and transmission issues including transaction volumes, quality of demographic data and quality of document metadata

Natural Language Processing (NLP)

BYO NLP features allow the NLP engine/service of your choice to interpret narrative text into structured data elements.

Support Applications

Tooling designed to monitor and troubleshoot platform operations

Value Proposition

Digital documents are the next frontier of electronic patient record information – and unstructured data is an untapped resource of clinical care and cohort management. This data is often fragmented across multiple systems, patient identifiers,

formats, document descriptions, and non-standard information flows. Alexandria Charts harmonizes disparate information and provides a robust set of APIs that can extract and process patient data, which allows solution builders and users to focus on key business problems.

Service Deliverables

Customers can license the Alexandria Charts platform either as Software as a Service (SaaS) managed by UPMC Enterprises or as a self-hosted platform in their cloud infrastructure.

Both options include access to all platform components, training, installation services, platform support and operational tools.

Alexandria Charts Services

Alexandria Charts also ties clinical documents to other discrete data assets which accelerates machine learning efforts and fosters increasingly powerful point-of-care interactions. The system was built with security and mind and is HITRUST compliant.

UPMC offers Alexandria Charts in two configurations. Partners can access it as a service, fully managed remotely by UPMC Enterprises. Alternatively, Alexandria Charts may be self-hosted in your cloud infrastructure. As part of our subscriptions, you receive access to training and service support.

Alexandria Charts components



Gateway Service



Bulk Extraction Service



Document Service



Application Document Viewer



Index Service



Operational User Interface



Governor Service



Identity Service

Alexandria Charts is a full featured platform that offers state-of-the-art capabilities for the ingestion, storage, management, and analysis of unstructured provider and payer data.

We offer ongoing support and maintenance for actively used applications where IT and/or supply chain groups lack the necessary expertise. Tier 2 UPMC help desk calls can be routed to the UPMC Enterprises Technology Services team for application support issues.

We can support applications created by UPMC Enterprises or portfolio companies that are currently in use by UPMC, UPMC Health Plan, or UPMC affiliates. We do not support applications planned for commercialization.

Value Proposition

This service is designed to assure the continued use of your application without interruption or need to find replacement solutions. Application maintenance and critical defect fixes assure operational continuity.

Service Deliverables

Service deliverables may include one or more of the following:

- Daily application support
- After hours on-call application support
- Issue tracking and ticketing system
- Tier 2 support response and resolution
- On-going application maintenance
- Application defect fixes
- Issue triage
- Application emergency patches
- End-of-life management
- Application availability
- Scheduled after-hours maintenance windows
- Application security patching
- Periodic software and data backups
- Disaster recovery (software & data)
- High availability testing
- HIPAA reporting
- Periodic access review
- Performance SLA responsibility

Services are defined by an SLA

Application Support and Maintenance

Examples of available UPMC Enterprises application support and maintenance services

- Application Availability
- Scheduled After-hours Maintenance Windows
- Application Security Patching
- Periodic Software and Data Backups
- Disaster Recovery (Software & Data)
- High Availability Testing
- HIPPA Reporting
- Periodic Access Review
- Performance SLA Responsibility



- End-of-life Management
- Daily Application Support
- After Hours On-call Application Support
- Issue Tracking and Ticketing System
- Level II Support Response and Resolution
- Ongoing Application Maintenance
- Application Defect Fixes
- Issue Triage
- Application Emergency Patches

If you need a secure, scalable, and reliable cloud solution that allows you to focus less on infrastructure and more on growing your business, we have the expertise and services to help make this happen.

Our team can provide a stable environment built on the AWS platform and supported by a vast library of products and services designed to build sophisticated, scalable applications. We can help you reduce the complexity of your IT operations and foster innovation through the adoption of a smarter, more flexible, and efficient infrastructure approach.

We have scripted and tested our cutting-edge automation and infrastructure-as-code tools, and maintain them under source control. We provide 24x7 infrastructure support and remediation of service issues. Our team will work with you to implement business and service continuity requirements that support high availability and disaster recovery.

Value Proposition

With the increased use of web-based health care portals and remote patient mobile technology, cyberattacks and internet threats continue to rise – and managing security and compliance across

a distributed health care organization is more challenging than ever. We offer flexible, secure, cloud-based solutions that are backed by the support you need to put your mind at rest.

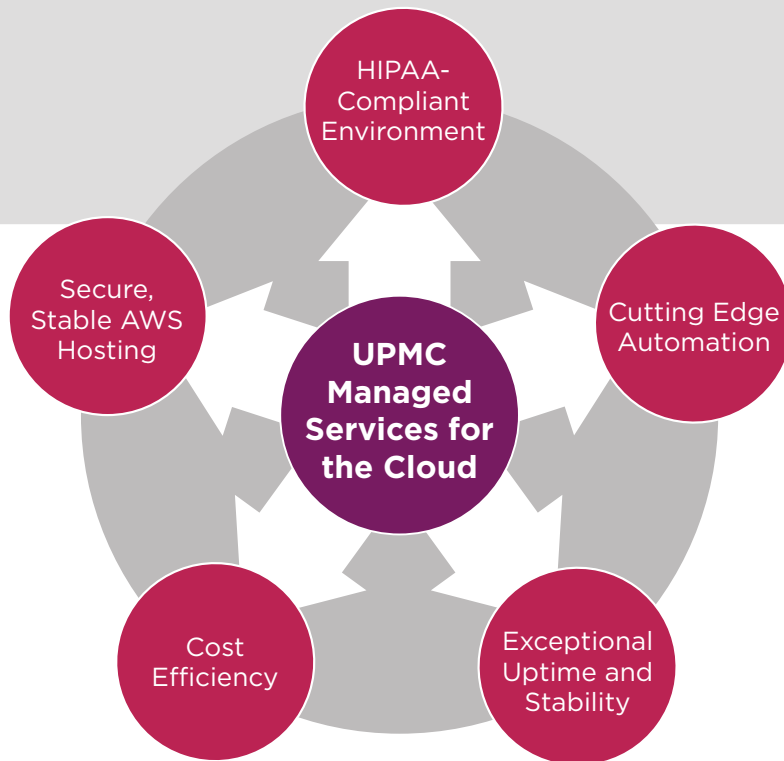
Service Deliverables

- Account creation and Identity and Access Management (IAM)
- Quarterly and annual infrastructure maintenance
- Backups
- Cost optimization guidance
- 24x7 infrastructure support
- Container/orchestration/serverless support
- Infrastructure as code and architecture enhancements
- Security services
- Compliance

Managed Services for the Cloud

Health care organizations that handle Protected Health Information (PHI) must be especially sensitive to issues of privacy and security – and not every cloud service complies with HIPAA. We offer HIPAA-compliant environments that meet the highest data standards.

Our team can provide a detailed cloud environment cost report that includes guidance on how to reduce monthly charges. We can also create forecasting cost models to help you anticipate changes in your environment and how they might affect your bottom line.





SECURITY & COMPLIANCE SERVICES

IT Risk Rapid Assessment

Our IT Risk Rapid Assessment is a web-based questionnaire that offers a preliminary measure of an organization's readiness for HITRUST certification. The service provides critical information about your overall IT risk profile and allows all parties to make educated decisions. The questionnaire is aligned to the HITRUST control framework and encompasses all 19 HITRUST control domains. With the information your engineers and CISO can quickly answer in 30 minutes, your organization will have a head start on what environmental controls should be enhanced prior to undergoing a formal HITRUST assessment.

In addition, if you subscribe to our Cloud Managed Services and have deployed our core Technology called Prescient, we can enhance your rapid assessment and executive summary with an automated 47- point and 20 question manual control check that will result in your organization having a more complete and objective risk assessment. Lastly, most HITRUST certifications expect an independent risk assessment being performed within the 12 months prior to starting a HITRUST assessment. Your organization can utilize the report generated by this assessment as evidence of an independent, external review of your systems and configurations. (Note that the service offers only a summary assessment and does not ensure HITRUST readiness.)

Value Proposition

Our IT Risk Rapid Assessment offers an objective view into the operating environment of partnered portfolio companies before investment. As the assessment is self-completed, leadership

can get a quick view into how engaged a portfolio company's leadership is with their IT environment. In addition, the questionnaire identifies areas to remediate prior to HITRUST certification.

Service Deliverables

- Quick online assessment comprised of approximately 50 questions
- Executive summary that summarizes the current risk posture and provides recommendations for remediation and improvement
- An objective assessment of the organization's readiness to undergo HITRUST certification
- If the organization is hosted on UPMC Enterprise's AWS environment, additional risk identification will be included in the executive summary from our Prescient environment configuration tool
- The summary and identified deficiencies can be utilized to encourage the client to utilize other UPMCE service offerings to enhance their overall adherence to industry best practices

Compliance does not have to be complicated. The HITRUST CSF assessment process can seem overwhelming, but we have the expertise and know-how to simplify the process.

Health care organizations use the HITRUST CSF to manage regulatory risk. The assessment combines myriad public domain regulations into a single framework that streamlines security and compliance requirements. These standards include HIPAA, General Data Protection regulation (GDPR), NIST CSF and others. HITRUST certification demonstrates that your organization possesses a robust, proactive commitment to security and risk management.

We support all stages of the assessment process. We will manage the assessment project plan, track milestones, facilitate meetings, and produce weekly status reporting and communications. We can guide you on the proper inheritance models for assessment evidence to help you achieve the broadest possible security and compliance risk mitigation posture.

We will serve as the main contact with the accredited HITRUST CSF assessor's consultants (such as Schellman). Once your team collects the evidence, we organize, upload, and track files in the assessor's audit management tool (such as AuditSource). While we typically are not responsible for evidence gathering, we will help coordinate and update the HITRUST MyCSF portal as needed.

Value Proposition

HITRUST CSF is the gold standard for health care information security. Lean on our expertise to efficiently guide you through the process and to address any questions that may arise.

Service Deliverables

- HITRUST assessment project plan
- Regular progress reports

HITRUST Common Security Framework[®] Assessment Support

HITRUST CSF Control Categories

-  **Information Security Management Program**
-  **Access Control**
-  **Human Resource Security**
-  **Risk Management**
-  **Security Policy**
-  **Organization of Information Security**
-  **Compliance**
-  **Asset Management**
-  **Physical and Environmental Security**
-  **Communications and Operations Management**
-  **Information Systems Acquisition Development and Maintenance**
-  **Information Systems Security Incident Management**
-  **Business Continuity Management**
-  **Privacy Practices**

IT General Control Assessment

Information Technology General Controls (ITGC) dictate the environment in which technology is designed, implemented, and used. An organization that demonstrates poor IT general controls is liable to security breaches, regulatory non-compliance, theft of company assets, and other risks.

UPMC Enterprises will assess your control environment to present a qualified opinion about IT operations. We will conduct a wide-ranging evaluation that touches on all aspects of your organization's IT environment, from disaster recovery, data protection, policies and procedures, and infrastructure management. Our team communicates areas of improvement and suggested remediations to both the requesting organization and UPMC Enterprises.

ITGC assessment controls



Value Proposition

The ITGC assessment offers insight into the risk posture of a potential partner prior to acquisition and provides qualified opinion about the risk profile to the organizations under evaluation.

Service Deliverables

- Assessment report that highlights risk areas
- Recommended courses of action to mitigate opportunities for improvement
- Guidance in the development and communication of an organization's risk register to assist the customer improve its internal risk management program

Incident Response Management

You've been breached – now what? We provide the support you need to ensure that security breaches are handled quickly and effectively. We offer guidance on how to collect and preserve data after a breach has occurred so that you may develop critical insights and mitigate issues in your IT security. Our team develops internal communication and coordination plans to ensure that key players are informed and provide emergency support and coordination during cyber incident responses when a breach occurs.

We provide guidance on long-term planning that includes Incident Response (IR) policy and procedure implementation, and the use of measures to reduce the risk and impact of future cyber incidents.

UPMC Enterprises cyber incident response services



Tailored Cybersecurity Incident Response Policy

Tailored Incident Response Plan

24x7 Access to Specialist

Access to Emergency Support

Value Proposition

We will leverage our extensive knowledge base and institutional experience with incident response management to enhance your overall security posture and data protection capabilities. In the case of a cybersecurity incidents, UPMC Enterprises will quickly respond, address, and resolve the issue.

Service Deliverables

- Written cybersecurity incident response policy tailored to your needs
- Written Incident Response Plan (IRP) tailored to your needs
- Access to a UPMC Enterprises specialist who will coordinate incident response when a breach occurs
- Access to emergency incident response support through a management contract with UPMC Enterprises

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UPMC Enterprises