



Innive Inc

Response to MSA Work Order Solicitation No.202236

IT Hardware Asset and Inventory Management System

Volume I – Technical Proposal

PREPARED FOR

Los Angeles Unified School District
IT Support Services (Finance and Administration)

ISSUED & SUBMITTED

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Los Angeles Unified School District



MSA Work Order Solicitation No. 202236

IT Hardware Asset and Inventory Management System

IT Support Services (Finance and Administration)

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VOLUME I

A. COVER LETTER

The cover letter shall not exceed three (3) single pages and must be signed by an authorized representative of the proposing firm. The summary shall cover the following:

1. Briefly summarize your understanding of the requested services.
2. Discuss the firm's specific role and present the firm's relevant qualifications for performing that role. Identify the names, address, affiliation, e-mail, and telephone number and fax number of the key contact person(s) for both prime and sub-contractor, if any.
3. Proposer shall address any problem(s) that they envision to be associated with achieving the SOW and cite specific suggestions for avoiding or mitigating these problems

June 30, 2022

IT Support Services (Finance and Administration)
333 S. Beaudry Avenue 10th Floor
Los Angeles, CA 90017

Innive Inc. (Innive) is pleased to offer our response to LAUSD's MSA Work Order Solicitation No.202236 for IT Hardware Asset and Inventory Management System. As you will see in the following pages, Innive's experience in providing solutions and services, specifically catered to K12 Education Sector, including its asset management solution, Hexalytics' EAM, meets or exceeds all requirements and specifications outlined in SOLICITATION #202236.

Innive has expertise in providing extensive business intelligence and data analytics services, including six years of experience deploying K-12 Analytics at medium to large K-12 school districts across the nation, and supporting them with the required technical and functional services. We are platinum partners with Oracle and possess a high level of expertise in data warehousing, data integration with ODI and other ETL tools, recognition for our focus in modern technologies including Kafka, Elastic Search, and other on-premises as well as cloud technologies. We have elaborate experience in geospatial solution, using ESRI and other technologies.

Innive is familiar with the requirements outlined in the solicitation, having provided similar services to other school districts. We understand that LAUSD is soliciting a qualified partner to implement and support a new IT Hardware Asset and Inventory Management solution system. The solution offered by the partner should encompass the following:

- Software
- Hosting services
- Data conversion
- Data migration
- Reports creation
- Integration with other LAUSD systems
- Ongoing technical support and maintenance
- Managed services
- Training for internal ITD personnel
- End-user training
- Establishment of policies and procedures, etc.

Solution – Required Scale and Infrastructure:

Scalable: The solution needs to be scalable thereby ensuring that it can accommodate all assets count in scope plus at 25% more capacity for future growth.

Infrastructure: Cloud-based or hosted solution with at least one dedicated non-production environment to be used for development and/or testing purposes.

Implementation:

The project implementation scope covers the following:

- Configuration: Installation of software, loading LAUSD data, configuring data fields, asset workflows, and reports, and validation of data and reports
- Data Conversion: Conversion and migration of all assets from the district's current management solution (BMC Remedy) to the new solution
- Data Exchange and System Integrations: Seamless data exchange mechanism between the new solution and LAUSD system, extraction of data from the new solution to district reporting tool as needed, automated data refresh and authentication of users through the district standard security authentication mechanism.
- System needs: As part of the system requirement, the new solution should have the ability to perform the following functions - Add and manage fields, create new forms, modify workflows, create customized reports, built in a low code/no-code platform, and interchange data with APIs.
- Business Process and Policy: Work with LAUSD to identify gaps between the current processes and the new solution and provide relevant recommendations and best practices to restructure existing processes to best leverage the new solution.
- Training: Provide “best practices” for training and professional development of all end-users and technical support staff.
- Project Management: To program manages the project implementation and provide the following - weekly progress update, conducts weekly meetings, and technical review meetings with LAUSD, and provides Quarterly progress updates to Chief Information Officer (CIO).
- Managed Services: Provide managed services to LAUSD for the duration of this contract which at a high level will include system health monitoring and troubleshooting and support policy, procedures, and documentation.

Innive is also familiar with implement and support the new IT Hardware Asset and Inventory Management system. The proposed solution must provide a single, centralized, asset and inventory management solution for LAUSD to manage and determine the life cycle of the items inventoried.

We acknowledge that LAUSD desires an enhanced IT Hardware Asset and Inventory management solution that can track and support managing over 1 Million technology hardware assets that include Desktop computers, laptop computers, tablets, carts, printers, projectors, hotspots, routers, switches, servers, alarms and security devices, drones, networked medical devices and other

technology items regardless of cost but including serialized peripherals such as monitor, Apple TV, docking stations, and other technology. The product must have role-based customizations to enable IT technicians, staff at district offices and school locations and ease reporting at the district level, school/office level, and student/staff level. The IT Hardware Asset and Inventory Management solution should support tracking of technology both on and off-campus.

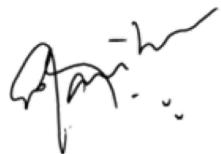
Hexalytics' EAM solution for the LAUSD is centered around user role-based dashboards that are custom configured for the respective roles to be able to perform their role better aiding in the decision making at all levels, strategic to operational, with strong factual support of data. We possess a high level of expertise in BI Reporting, data integration, API for business applications and service management. Our ITAM solution covers many basic and advanced Features, such as Ability to manage large quantities of data; Ability to import vendor reports; Tagging; Application Controls; Hardware and Software Inventory; License Management; Lifecycle Management and Disposal; Change/Configuration Management; Software Usage Metering; Patch Management; Service Catalog; Access from any device or location; Event notification; Policy rules and alerts to identify abnormal activities and many more.

We are thankful to you for providing us the opportunity to serve you during the last 5 plus years and allowing us to show case some of our expertise through the delivery of our solutions and services, including the Remote Learning Dashboards project which contains asset management. This experience with LAUSD enables us to understand deeply the requirements specified in the solicitation and provide the confirmation to you that meet your qualification requirements and are ready and equipped to offer our services and solutions to meet your needs. We have provided details of our services, our experience and reference implementations in the proposal, and have clarified our company's qualifications.

The entire operations related to the current solicitation will be managed directly by Innive, using our own resources, including resources from our wholly owned subsidiary. The undersigned will act as the primary point of contract for this response and potential contract, representing Innive and its subsidiaries. If there are any contractors required to be used for any specific person, the undersigned will take responsibility for such contractors too, and act as the single point of contact for the district.

Innive has a strong track record of serving as an implementation partner to many school districts. We have the background and experience with in-depth, hands-on knowledge of public-school business processes, organizational cultures, people and technology. We have also developed our own set of comprehensive K-12 solutions and have an extensive understanding of how all the systems within a school district operate together and not just individually. Our employees have proven experience in the technology, support and managed services, at all levels – from Expert Services to regular maintenance and support. LAUSD is a strategic account for Innive, and we accord the highest level of management commitment to this engagement.

We look forward to the opportunity to serve you further, offering the solicited managed services with higher service coverage, combined with cost savings, value and efficiency.



Gautham Sampath

Chief Executive Officer
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B. MINIMUM QUALIFICATION PACKAGE

Proposer shall specify how compliance was achieved for each of the Minimum qualifications requirements listed below and if applicable submit documentation for evidence of compliance. Please reference page and section number of your proposal to validate compliance with each of the minimum qualifications.

- 1. The proposer shall have continuously been in the business of providing Hardware Asset Management solution for a period of at least five (5) years, for educational, government (state and/or federal) and commercial institutions.**

Summary: Over 6 years of providing Hardware Asset Management Solution for various leading School Districts, Public Agencies and other Fortune-500 customers

Founded by industry and technical experts of long standing, Innive offers business transformation services, with innovative solutions and best in class services, guaranteeing significantly higher returns to its clients. Core values include a customer centric approach, commitment to people and community, continuous innovation and excellence.

Innive is uniquely positioned to support LAUSD needs. Over the last **6+ years of existence**, Innive is experienced in IT Hardware Asset and Inventory Management service offerings to various Unified school districts across the country. Our solutions and services span across multiple standards and technologies for an agnostic and flexible approach. Innive possesses skills and experience with large educational systems and widely used technologies to develop and deliver solutions and services that radically improve operational and educational outcomes.

Innive is a recognized leader in K12 Business Analytics and has a dedicated vertical line of practice in the Education Sector, with extensive R & D investments to develop and maintain a comprehensive Enterprise Asset Management solution, called Hexalytics EAM. Innive is a specialized Oracle and BI entity that focuses on various public and private sector organizations in the US, in addition to select verticals like Transportation and Education. The principal members carry extensive industry and technical experience, including public sector, transportation, asset management, education systems, banking, telecom, real estate and retail, and bring their combined experience and knowledge to deliver differentiated services and solutions. Innive has development and support arrangements with specific firms, in the US, Middle East and India, to supplement its core team, and provide extended services as required.

Innive has provided services for Enterprise Reporting, Asset Management, OBIEE, ODI, Oracle Warehouse Builder, Oracle JDeveloper (for ADF), Weblogic and Emerging technologies at:

- Pinellas County Board of Commissioners
- Prince George's County Public Schools
- Pinellas County Clerk of the City Court
- Mastec, Florida
- Rochester Public Schools
- Clay County School District

Innive has been playing a critical role in delivering critical IT Hardware asset Management solution for various school districts, leveraging its Hexalytics EAM solution. The solution is being in several areas – hardware, help desks, vendors, invoices, dashboards, reporting, alerts and other areas.

Innive is a certified **Oracle platinum partner** and a recognized expert in Data warehousing, Hyperion planning and budgeting, Exalytics, Exadata, E-Business Suite, and Human Capital Management Systems. We also specialize in other technologies, including Microsoft, Google, and AWS. Our strength lies within our ability to provide service and solutions across many platforms including Oracle and others, located on-premises, hybrid-cloud, or cloud. We focus on identifying business problems and value to be provided to our customers, and then recommend an appropriate technology architecture that is cost effective, flexible, scalable and easy to maintain. Our customer-oriented approach and agile methodology uniquely positions us to be a value-added partner.

Innive's partner, HTC is a **SAP Partner** and provides strategic consulting, evaluation, implementation, and on-going optimization of SAP solutions to organizations across the globe. HTC helps SAP customers design, implement and integrate solutions, optimize business processes, and provide strategic business consultation.

HTC is also a **silver partner with Microsoft** which enables them to share their experience, knowledge, and expertise to fulfil global clients' requirements. It also supports them to provide services / solutions utilizing the latest technologies to develop clients' business.



Innive's partner, **Amazon** has a long history of using a decentralized IT infrastructure. This has enabled our development teams to access compute and storage resources on demand, and it has increased overall productivity and agility. By 2005, Amazon had spent over a decade and millions of dollars building and managing the large-scale, reliable, and efficient IT infrastructure that powers one of the world's largest online retail platforms. Amazon launched Amazon Web Services, Inc. (AWS) so that other organizations could benefit from Amazon's experience and investment in running a large-scale, distributed, transactional IT infrastructure. AWS has been operating since 2006 and now serves millions of active customers every month worldwide. Innive is fully versed with the expectations from each of the mentioned roles due to our experience supporting K-12 school districts on large and small projects and initiatives. We have redesigned processes and programs for customers through our consulting engagements, including implementation of change management strategies aligned with industry-leading best practices. As a solution provider of web-based solutions, we are inherently aware of the technologies and methodologies to deploy capable web-based systems and applications. Furthermore, we routinely manage large-scale highly visible enterprise projects and deliver knowledge transfer and training to our customers via multiple methods and mediums.

2. The proposed Hardware Asset Management solution must have been in use for at least two years, for institutions of similar scope and complexity as that of Los Angeles Unified School District with over 3000 school users managing 1 million+ physical asset assigned to 600,000+ users.

Summary: In the past 5 years, Innive provide hardware asset management solution for several school districts, including Hillsborough School District, Santa Fe School District, Prince George's Public School, Clay County Public Schools, Rochester City School District and San Francisco Unified School District.

Innive has worked on many projects at Hillsborough School District, Prince George's Public Schools and Rochester City School District, Clay County and Santa Fe School District, that are relevant to establish the expertise in IT Hardware asset management. Scope of services provided at the above clients include analysis, design, implementation and support of Asset & Inventory Management systems to support their core teams, that included extensive Data analysis, ETL and Datamart builds, Data visualization, BI design focused on User experience, extensive BI reports and dashboard developments. All the deliverables were **completed on time and within budget**.

Besides asset management services, almost all engagements at school district and others involve several parts of the services covered in Oracle Managed Services, IT professional services, consulting, staff augmentation, enterprise-wide project management, training, and other services. Innive with strategic partners including HTC and **Amazon**, have implemented several projects (well over the minimum of 3 specified) in the areas of Software development and support Services leveraging technologies like Oracle, Microsoft, Open Source, SAP, React and BMC technologies in the past 3 years.

Hillsborough, FL: Remote Learning (IT Hardware Asset Management Implementation) Mar- Oct, 2019

Hillsborough has been using Hexalytics EAM products for over 2 years. Many of modules were designed many years ago. We are assisting Hillsborough to redesign the asset management system using our Hexalytics EAM product providing a modern look and feel that will enable school, local district, and central office staff with a single place to go to access hardware asset and inventory data regardless of their role.

Contact Details:

Contact Name	Michael Mcauley, CTO
Phone Number	(813) 272-4000
Email ID	Michael.mcauley@hcps.net

San Francisco Unified School District, CA: Remote Learning (Enterprise Asset Management) , Apr-Oct, 2020

SFUSD was operating their hardware asset management with an older version of product. Innive is currently engaged in helping them upgrade and implement Hexalytics EAM framework to provide enriched user experience and analytical dashboards.

Contact Details:

Contact Name	Melissa Dodd, CTO, SFUSD
Phone Number	415.241.6476
Email ID	doddm@sfusd.edu

Santa Fe School District, NM: Remote Learning (Enterprise Hardware Asset and Inventory System) Jul-Dec, 2021

Innive designed a comprehensive hardware asset management solution for Santa Fe Public schools 3 years ago, integrating various data sources from different systems, built business driven systems to provide a longitudinal data mart, tuned for analytics, for meeting both operational and analytical needs, covering all aspects of Hexalytics EAM including hardware, help desks, vendors, invoices, dashboards, reporting, alerts and other areas.

Contact Details:

Contact Name	Neal Weaver, CIO, SFPS
Phone Number	(505) 467-2000
Email ID	nweaver@sfps.k12.nm.us

C. QUALIFICATION AND EXPERIENCE OF FIRM AND RESOURCES

FIRM BACKGROUND

Innive - Overview

Innive Inc. (Innive), a leading K12 Technology Corporation incorporated in Tampa, Florida (and headquartered in Plano, TX) offers innovative software solutions and services dedicated to transforming K12 districts nationwide. With immense experience in data integration, curation, aggregation, validation, development, and analytics, Innive has been at the forefront of digital transformation in K12 education. Our solutions and services span across multiple education standards and technologies for an agnostic approach. Experienced with large educational systems and widely-used technologies such as SIS, LMS, ERP, State Assessment, GIS, and other major IT solution layers. Innive develops, delivers, and provides solutions and services, which are radically improving system usefulness across education agencies.

Innive is a leading solution and services provider in the Education sector, specializing in providing Business Intelligence, Predictive Modeling, Artificial Intelligence, Budgeting and Forecasting solutions for a wide range of large, medium, and small districts and consortiums. Innive is a certified Oracle platinum partner, Google Partner for Education, AWS Partner, Tableau Partner and a recognized expert in Oracle Business Intelligence, Data warehousing, Hyperion planning and budgeting, Exalytics, Exadata, E-Business Suite, and Human Capital Management Systems. Innive also specializes in cloud technologies, including Microsoft, Google, and AWS.

Innive's strength lies within our ability to provide expert professional, professional services, and solutions across many platforms, located on-premises, hybrid-cloud, or cloud. We focus on the business problems and the values to be provided to our customers, and then recommend an appropriate technology architecture that is cost effective, flexible, scalable, and easy to maintain. Our customer-oriented approach and agile methodology uniquely positions us to be a value-added partner for LACOE meeting your specified requirements, and scale to provide additional capabilities beyond specifications.

Considering our expertise and credentials, we intent to respond to all eight mentioned areas in the RFP.

Background and Experience

Innive was founded on March 12, 2015, in State of Florida.

Our headquarter is located at: 5717 Legacy Dr Suite 250, Plano TX 75024.

We enable Districts and Education Agencies across United States to create and execute strategies for their digital transformations. We are a certified SBE company with more than 300+ employees globally. We have 4 offices in US and 1 development center in India. We have around 25+ employees working out of Southern California, serving our clients in the region.



Below is the snapshot of our satisfied customers worldwide.



Innive provides Software Development, Application Management and Development and Security Services through its comprehensive Service offerings that includes industry best and new practices.

Innive is proud to present its core team of IT Technology and Solution experts, who will be supervising, guiding, implementing, and managing the tasks called out in various Statement of Work through a set of well experienced staff members and consultants. Innive is supported by a large team of senior resources – both staff and consultants – with years of experience in the industry and strong performance records, who will be directly assigned to handle the tasks under the SOW, with guidance, support, and control by the experts. We are focused on providing

transformative solutions and services utilizing data and data relationships. With advanced techniques for data aggregation, integration, and visualization, Innive provides meaningful insights impacting organizational improvements and outcomes. Our approach is through collaboration and partnership, solving complex business challenges and delivering true transformation.

Qualifications

Innive has deep Education Sector experience and provides award winning Data Analytics Solution and Services, specializing in providing K12 Business Intelligence, Predictive Modeling, Artificial Intelligence, Budgeting and Forecasting solutions for a wide range of large, medium, and small districts, DOEs and Education consortiums.

EdFi Alliance awarded us as [**Partner of the Year**](#) for our commitment to interoperability and the Ed-Fi Community by being a champion for data standards, a thoughtful partner for education agencies and a visionary in the use of data to improve outcomes for learners.

We are heavily engaged in K12 education, **since 2015**, serving districts of all sizes (from 500,000+ students to some of the smallest) in the United States. We have invested in partnering with our customers to develop some truly innovative solutions solving complex challenges with transformative approaches. We understand that subject area complexities of PK-12, like the ones listed below:

<ul style="list-style-type: none"> ● at-risk indicators ● graduation on-track and A-G classification ● intervention practices ● student growth ● program attendance ● student health and medical conditions ● early childhood ● social emotional ● school climate 	<ul style="list-style-type: none"> ● gifted and talented, post-secondary ● high school graduation ● diploma requirements ● graduate outcomes ● credit attainment ● entrance exam readiness ● college pathways ● college readiness ● college persistence ● college completion ● surveys 	<ul style="list-style-type: none"> ● staff recruitment and evaluation ● staff absence ● staff qualifications and development ● staff effectiveness ● highly qualified ● school / department metrics ● purchasing ● accounts payable ● inventory ● budgets and expenditures ● spending and every other aspect
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We are happy to provide the following referenceable K12 customer engagements with district sizes based on student population. The details of few of these implementations has also been provided:

- Los Angeles Unified District (LAUSD), CA – 600,000+ students
- San Francisco Unified District (SFUSD), CA – 64,000+ students
- San Jacinto Unified District (SJUSD), CA – 11,000+ students
- Dallas Independent District (DISD), TX – 155,000+ students
- Boston Public Schools (BPS), MA - 55,000+ students
- Austin ISD, TX – 72,000+ students
- Rochester City District (RCSD), NY – 30,000+ students
- Clay County School District, FL – 39,000+ students

Innive is pleased to share the recent referenceable projects for your consideration. These showcase our ability to perform the requested services within scope, time and agreed upon cost with our leading K12 district partners.

- **Los Angeles Unified District, CA – Data and Reporting Service Provider**

Innive has been working with LAUSD for the past several years and has implemented, delivered, and is supporting many of their strategic data initiatives:

- a. K12 360° Whole Child Solution - Innive has designed, implemented, and is supporting the Whole Child Solution for LAUSD that provides a complete picture of each child, including their grades, attendance, health, programs, special needs, and more. The platform provides a 360-degree “whole child” picture of every student, support for student centered learning, multi-tiered systems of support, and data to support

continuous improvement cycles. The platform helps educators identify trends and key takeaways so that they can make informed decisions about how to prepare each child for college, career, and life success from early education to graduation and beyond.

- b. Analytics Strategy and Program Management - Innive's Professional Services team assisted the Los Angeles Unified District (LAUSD) in developing and implementing a comprehensive strategy and roadmap for analytics at LAUSD.

The goals were to:

- 1) provide self-service analytics to schools and other users so they can create their own reports
 - 2) enable advanced data discovery capabilities for data analysts in Local Districts and the central office., and
 - 3) design and build performance-based visualizations to track key performance indicators (KPIs) for strategic plan goals and the metrics defined in the LCAP
- c. K12 360° Data Visualization projects - Innive K12 360° was implemented to provide LAUSD District leaders – Superintendents and others, fingertip access to track the district's key metrics and strategic goals, and initiatives of the state as well as the district. The specification was to have a one-page layout of the visualization, with the ability to analyze and get to details in three clicks or less. We used the K12 360° framework and visualization to deliver a tablet friendly visualization that tracks the key goals and their relevant KPIs, with analytical views by key dimensions including special student groups, board, revenue and local districts, student ethnicity, grades, and gender.

Contact Details:

Contact Name	Sohail Katal, CIO, LAUSD
Phone Number	(213) 241-1000
Email ID	Sohail.katal@LAUSD.net

- **San Francisco Unified District, CA – EdFi ODS Implementation and Data Visualizations**

Innive is partnering with LAUSD to implement and support their ODS initiative and has delivered multiple K12 360° Data Visualization targeted for principals, teachers, and district administrators. For e.g. Our School 360° solution provides each principal with near-real time information about their school, teachers, and students across several dimensions including attendance, academics, special education, English learner status, and more. We helped to solve the integration challenges San Francisco Unified was facing related to integration of their SIS data with the Ed-Fi ODS. We have built the data mart required for analytics and delivered the Principal Visualization prototype. The visualizations are in production since Fall 2019.

Contact Details:

Contact Name	Melissa Dodd, CTO, SFUSD
Phone Number	415.241.6476
Email ID	doddm@sfusd.edu

• **Council of School Network (COSN) – Home Internet Study**

Innive partnered with COSN to empower educators and policymakers to address digital equity for students learning from home and closing the Homework Gap. Innive participated with following districts to study on students' at-home internet connectivity and provided guidelines on bandwidth, devices, and other remote learning needs based on the data.

- Aldine ISD (TX)
- Beaverton School District (OR)
- Boston Public Schools (MA)
- Dallas Independent School District (TX)
- Ector County ISD (TX)
- Fauquier County Public Schools (VA)
- Forest Ridge School District 142 (IL)
- Hillsborough County Public Schools (FL)
- MSD of Wayne Township (IN)
- Rock Hill Schools York 3 (SC)
- Santa Fe Public Schools (NM)
- St. Charles CUSD 303 (IL)
- Wake County Public School System (NC)

Contact Details:

Contact Name	Keith Kruger, CEO, COSN
Phone Number	
Email ID	keith@cosn.org

• **San Jacinto Unified District, CA – Learning Analytics Data Visualizations**

Innive is partnering with SJUSD to implement and support their Data Visualizations targeted for principals, teachers, and district administrators. For e.g. Our Learning Analytics solution, which leverages Ed-Fi ODS, provides near-real time information about readiness of the district, school, teachers, and students across several dimensions including operations, attendance, academics, special education, English learner status, and more. We helped SJUSD plan their response with deeper insights and enhanced collaboration between various departments leveraging insights via the same pane of glass.

Contact Details:

Contact Name	Gabrielle Henderson, Instructional Technology Teacher on Special Assignment
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Email ID	ghenderson@sanjacinto.k12.ca.us

Solution Partner: AWS

Amazon has a long history of using a decentralized IT infrastructure. This has enabled our development teams to access compute and storage resources on demand, and it has increased overall productivity and agility. By 2005, Amazon had spent over a decade and millions of dollars building and managing the large-scale, reliable, and efficient IT infrastructure that powers one of the world's largest online retail platforms. Amazon launched Amazon Web Services, Inc. (AWS) so that other organizations could benefit from Amazon's experience and investment in running a large-scale, distributed, transactional IT infrastructure. AWS has been operating since 2006 and now serves millions of active customers every month worldwide.

Having AWS as Innive solution partner, customers can requisition compute power, storage, and other services in minutes and have the flexibility to choose the development platform or programming model that makes the most sense for the problems they are trying to solve. Customers pay only for what they use, with no upfront expenses or long-term commitments, making AWS a cost-effective way to deliver applications.

The Differences that Distinguish AWS

AWS is readily distinguished from other vendors in the traditional IT computing landscape because it is:

- **Flexible.** AWS enables organizations to use the programming models, operating systems, databases, and architectures with which they are already familiar. In addition, this flexibility helps organizations mix and match architectures in order to serve their diverse business needs.
- **Cost effective.** With AWS, organizations pay only for what they use, without upfront costs or long-term commitments.
- **Scalable and elastic.** Organizations can quickly add and subtract AWS resources to and from their applications in order to meet customer demand and manage costs.
- **Innovative.** AWS launched 1,430 new features and services in 2017. (Refer to Figure 1 for a sample services diagram.) Our pace of innovation is funded and sustained through our economies of scale and commitment to delivering the products and services that matter most to our customers. Our continual innovation ensures that customers maintain state-of-the-art IT infrastructure without having to make recapitalization investments.
- **Secure.** In order to provide end-to-end security and end-to-end privacy, AWS builds services in accordance with security best practices, provides the appropriate security features in those services, and documents how to use those features.
- **Experienced.** When using AWS, organizations can leverage AWS's many years of experience delivering large-scale, global infrastructure in a reliable, secure fashion.

Experience Details

Summary: 6 years of experience in building dashboards using i360 Framework, including Innive K12 360 Solution, Focus Dashboards, Open Data and Whole Child for LAUSD.

Innive has been using its ReactJS UI/UX framework to build out dashboards and analytical solutions for various customers in K12 and other sectors for over 6 years. All of Innive's solutions, both in-house solution modules, as well as modules built for the customers, including LAUSD, are using the UI/UX framework built with ReactJS and supporting technologies. At LAUSD, most dashboards in the Focus OBIEE instance, the Open Data Dashboard and all Whole Child Dashboards are built using the UI/UX framework. Innive has used the same framework to enrich OBIEE dashboards for Mastec Network Solutions, HR Dashboards for the Federal Reserve Board of Governors, Open Data Dashboard for Pinellas County, Florida and several OBIEE dashboards for Prince George's County Public Schools, Maryland. Besides, Innive's core K12 solution, called K12360 is built with the same framework and modules from the solution are being implemented at Clay County School District, FL, Rochester City School District, NY, San Francisco Unified School District, CA etc.

Summary: 6 years of deep Oracle and other technology experience in ETL, 6 years with UI/UX Framework, recognized experts in ODI and OBIEE (Oracle ACE), recognized thought leader in modern technologies including Kafka, Elastic OEM Partner and ESRI specialist with several Geo Spatial project and integration experience.

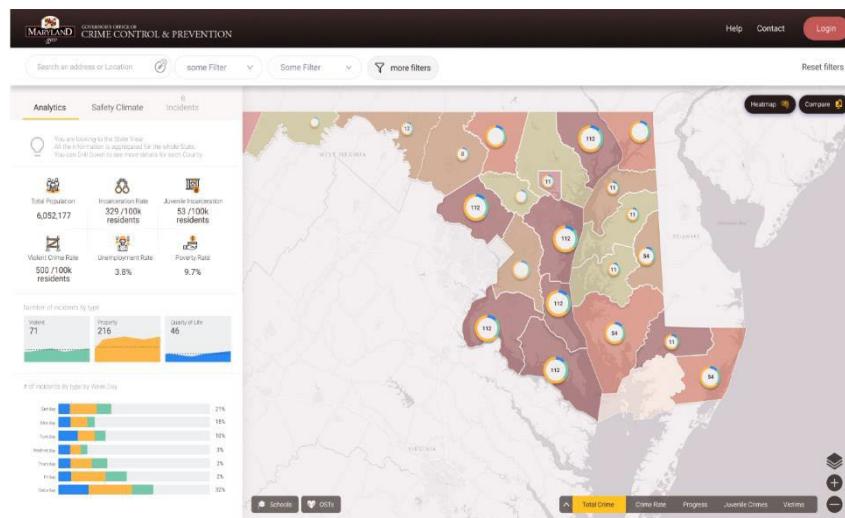
Innive has been providing the above services to its customers for the last 6 years, for customers in the K12 sector, including LAUSD, Prince George's Public Schools, Rochester City School District etc., and other customers including Federal Reserve Board of Governors, Mastec Network Solutions, Pinellas County FL etc. Redpill Analytics, a wholly owned subsidiary of Innive has been providing similar services to various private sector companies including Sherwin-Williams, Be The Match, Land O Lakes, Doosan, BCG Consulting, JPL Laboratories and many others. Innive and RedPill are recognized technology partners of Oracle and have been recommended on several occasions to provide expert advice, technical architecture and resolve specific issues related to ETL, Data Architecture, OBIEE and related areas to both private and public sector customers.

Innive has been providing specialized services around UI/UX framework, with its solution as well as support customers with custom builds using modern UI technologies. At LAUSD, Innive has been providing UI/UX framework maintenance as well as dashboard build and maintenance services for over 3 years. Innive has provided similar services to Prince George's County Public Schools, Mastec Network Solutions, Pinellas County, and other customers.

OBIEE has been a core area of expertise for both Innive and Redpill. We have provided services covering architectural design for OBIEE, installation and configuration, design and development of OBIEE, both for Oracle Business Intelligence Applications as well as for custom

BI reporting, provided expert advice for configuring and optimizing the metadata layer (RPD), resolved issues in setup of Business and Presentation Layers and developed many dashboards and adhoc reports with OBIEE for several customers including LAUSD (Focus and Longitudinal), Prince George's County Public Schools, Rochester City Schools, Mastec, Pinellas and other customers.

Innive, with its team in Brazil, specializes in integrating Geo-spatial information with business analytics and provide a value-added solution to the customers. Innive has produced several interesting geo-spatial solutions at LAUSD and other customers in the last 4 years. At LAUSD, Innive has integrated ESRI data with both Focus and Whole Child data and has delivered specialized geo-spatial enriched dashboards.



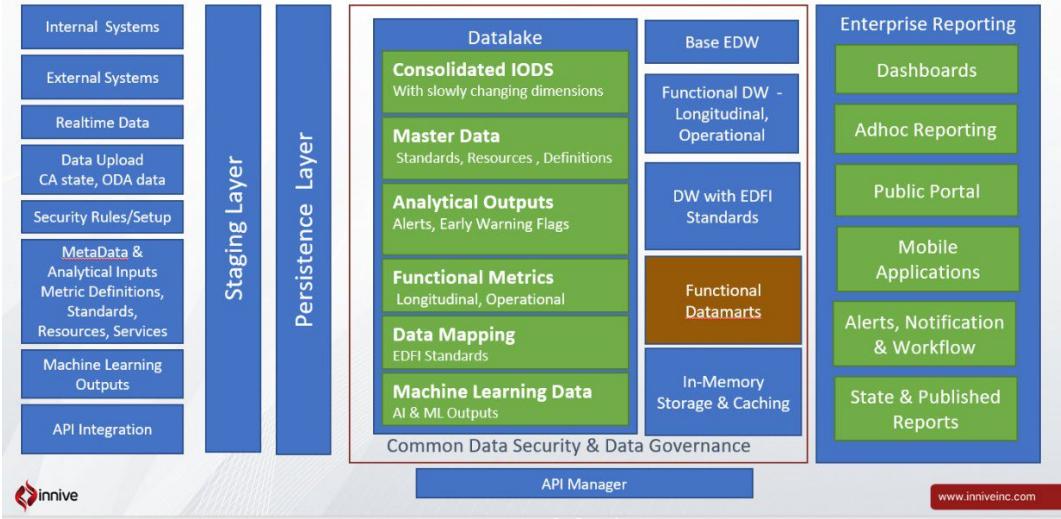
The Brazil team has delivered several geo-spatial solutions to public sector agencies in Brazil. Innive is a registered partner with ESRI, working closely with ESRI for building specialized geo-spatial solutions for transportation and law enforcement.

Innive is a registered OEM partner with ElasticSearch, and for over 30 months, Innive has been specializing in using Elastic Search as an analytical data layer. Innive works closely with Elastic to adapt the technology for various analytical applications. With the show case of Innive's expertise in Elastic Search and its ability to effectively use Elastic Search as a data source for analytics, Innive and Elastic Search are working closely to launch a joint go-to-market solution for Innive's analytical solution, powered by Elastic Search.

Summary: Experience with several school districts, including LAUSD, Prince George's Public School, Clay County Public Schools, Rochester City School District and San Francisco Unified School District.

Innive has developed a comprehensive data architecture to support indepth functional and cross functional analytics, specifically focused on K12 education sector. The data model is compatible with various technologies, both on-premises and on cloud. The data model supports integration of structured, semi-structured and unstructured data, with support for slowly changing dimensions. The data model supports both longitudinal and operational reporting, using appropriate functional datawarehouses and datamarts.

Unified Data & Reporting Architecture



Innive has used this model in delivering the datawarehouse and datamart to support the Whole Child initiative at LAUSD. We have brought data from over 80 different sources, both internal and external, to support Whole Child.

The same data model is being used for the K12 360 analytics being delivered for Clay County Public Schools, FL, Rochester City School District, NY and also San Francisco Unified Public Schools, CA.

Innive is using the same data model, with some adaptation for its cloud-based SaaS offering of K12360. The SaaS solution is targeted to be rolled out to over 500 small and medium school districts. The data model supports EDFI and other K12 data standards in two ways – to integrate EDFI APIs from SIS and other vendors and to integrate with EDFI ODS. In addition, the architecture and data model also includes mapping of the integrated data to EDFI model, ensuring that the data can be published in EDFI format where required.

Summary: Innive specializes in K12, with a dedicated solution K12360, approved by Ed Tech JPA for selling to any school district in California (and other states), and engaged with over ten school districts including LAUSD, PGCPS, SFUSD, Clay County, Rochester, Chicago Public Schools, Dallas ISD, Miami Dade etc.

K12 is one of the established areas of focus for Innive and the entire team at Innive, including the executive management, has been spending over 6 years interfacing with various school districts, including LAUSD. We have been a regular sponsor and participant in all the K12 industry focused seminars and events, connecting with all the large, medium, and small school districts, and continuously enriching our experience and exposure to the K12 space.

Innive has a proprietary K12 360 Solution that includes over 30 modules, including role-based

dashboards for Executives (Superintendent, Assistant Superintendents, Chief Academic Officers etc), School Administration (Instructional Directors, Principals, Assistant Principals and specialized roles at School level), Teachers, Counselors, Student Support, Special Education and other roles, School Facilities, Functional dashboards for Central Office and Administrative users, including Enrollment, Attendance, Assessments, Discipline, Student Performance, College Readiness, Career Readiness, Socio-Emotional development etc.

Innive has recently won a competitively bid SOLICITATION with the Education Technology Joint Powers Authority (<https://edtechjpa.iusd.org/department/about>) Ed Tech JPA - a California Joint Powers Authority) which permits Innive to sell all or any part of its K12 360 Solution to any of the 25 member school districts, and to any other school districts in California and in other states.

Innive and its team has been providing extensive services to LAUSD, Prince George's County Public Schools, Clay County District Schools, FL, Rochester City School Districts, NY, San Francisco Unified School District, and many others.

Summary: Over 6 years of experience providing specialized services in Oracle technologies to various customers in public and private sector. Oracle partner, recognized as an expert and recommended by Oracle for various engagements to address critical problems,

Innive and all the resources being submitted possess a minimum of 6 years' experience in providing, managing, and supporting several Oracle technology-based projects and customers. Innive has been providing such services to LAUSD, Mastec, Rochester City School District, Federal Reserve Board of Governors, Pinellas County, and many other customers. Each of the resources have experiences, both as part of Innive's projects and also others, at various customers. Several resources within Innive are Oracle certified engineers. Stewart, CTO, is an Oracle ACE Director, and Gautham Sampath, the CEO, is a renowned Oracle technology expert. Rodrigo and Ricardo are Oracle ACE in ODI. Stewart is a technology leader in modern technologies, including Kafka, and is a regular presenter in various technology events, both Oracle and non-Oracle. Alex Cordon, the executive heading Brazil operations, is an ESRI specialist, and the team in Brazil has executed several complex projects for Brazil public sector, including transportation.

Law Suit and Litigations

Innive hereby declares that there are no open law suits or litigations of any kind against the company.

Service Models

Staff Augmentation

Innive provides resources suited to meet the specifications of LAUSD related to all the service categories listed in the proposal. We offer resources both on-site and off-site for short, medium, or long-term durations depending on LAUSD's needs.

All the specified service categories in the Solicitation are integral services used by Innive as part of our regular business divisions and operation of Innive. All the resource types are ones that Innive regularly uses for its core operations. We use ongoing recruitment, onboarding, and training processes to maintain a regular bench of these resources for our own in-house solution development, solution implementation purposes, and to provide managed services and managed projects for our customers.

We offer resources at four different levels:

- **Level 1** includes junior resources typically with 4 years or less experience
- **Level 2** includes mid-level resources with 8 years or less experience
- **Level 3** includes senior resources with over 8 years of experience
- **Expert Level** includes resources who are industry leaders, K-12 experts, Oracle ACE Directors, etc., who are typically offered for short periods to provide expert advice, strategic ideas, and solutions, etc.

We will provide the best resources, including the appropriate level, to meet the needs and specifications of LAUSD.

Managed Projects

For each managed project, we provide comprehensive services. This includes project management, requirements gathering, functional consulting, technical design, technical development, and training and support. For each managed project, we provide a comprehensive team of functional and technical experts, project management and change management professionals. We provide managed project services for service categories included in the SOLICITATION: ERP Implementation, Upgrade and Integration, SIS Implementation, Upgrade and Integration, Software Development, Technology Project Program Management, Data Analytics and Transition to Cloud Services, Shared Services, and Managed Services.

Managed Services

Under managed services, we cover all the services supporting Managed Projects in addition to design, architecture, installation, configuration, optimization and maintenance of required software and hardware, both on-premises or on-cloud. We provide these services in complete coordination with the customer's infrastructure, application, network, and security teams. Services are provided throughout the execution of the project as well as following go-live for project continuity and closure. We help bring industry-leading experts for each area as required and provide our customers with the best architecture delivering optimized performance. We help to introduce cost-effective, modern solutions through the process, helping our customers migrate and take advantage of new technologies with our support. During the project we provide ongoing

knowledge transfer and training, equipping our customer's technical teams to quickly learn and become technically confident on new technologies.

Consulting Services

We provide consulting services supporting each requested category on both time & materials as well as on a fixed bid basis. Consulting services are delivered with a set of team members, both dedicated as well as flexible deployment, where we take responsibility for the assigned tasks and help customers achieve a specific scope of items. These services can be part of a specific project, or specific activities prior to a formal project, including discovery or proof of concept (POC). We provide full flexibility for structuring such engagements – our teams can report to the customer's management team for their tasks and output, or we can manage the team and be accountable for the defined deliverables. We offer consulting services for all categories listed in the SOLICITATION, including ERP Implementation, Upgrade and Integration, SIS Implementation, Upgrade and Integration, Software Development, Technology Project Program Management, Data Analytics, Transition to Cloud Services, Shared Services, and Managed Services, Training, Security and Network Management. Our common areas of consulting services include:

Discovery and Roadmap Development

Innive can lead discovery sessions with business and IT resources, and provide a comprehensive set of services, on fixed-bid or time and material basis, to document our findings, provide our recommendations with necessary POCs and provide a detailed roadmap for implementation and roll out. This can cover a wide area of topics including determining specific business needs and associated technology options, or evaluating the current landscape of system and processes, and recommending options to improve, simplify and streamline the systems and processes. We help our customers formulate comprehensive programs to execute our recommendations which may span multiple years.

Expert Advisory Services & Strategic Consulting

Innive's strategic consulting brings a combination of strong K-12 industry leaders, including academic and non-academic experts, and strong technology leaders with experience in K-12 systems and processes, to provide expert advisory services to our customers. Services can cover addressing specific problems of practice including declining enrollment, lower graduation rates, higher dropouts, declining school climate, increasing staff voluntary attrition, managing needs of special student groups including English Learners, Special Education Students, etc. Services can also be system oriented, serving the customer's IT department, including assessing current systems and IT processes, system and process audits and recommendations, procurement processes, scalability and performance, security gaps and improvements, network assessment and optimization, etc. The engagements can be short term to provide a specific recommendation or can be a longer-term retainership, to provide continued services for a prolonged period and supplement the expertise, experience, and bandwidth of the customer's team.

System Architecture

Led by senior technical resources skilled within each service category, including Oracle ACE Directors and skilled system and data professionals, we engage with customers to do a holistic assessment of your system landscape and provide a comprehensive architecture review and recommendations. We document all the systems, their inputs, and outputs, including how they are

tied to the core business processes and the teams using them for the customer IT management to get a clear perspective of the landscape and identify areas of contentions, duplicity in capabilities, areas of low usage and adoption, areas of poor performance, and risks. We provide clear recommendations of the to-be architecture, including streamlining of the current systems, data, and processes, recommend new technologies, opportunities for migration to the cloud, possibilities for changing licensing and subscription terms, strengthened resiliency, scalability, and disaster recovery. In cases where the customer has an up-to-date, well-documented system landscape, we use that to provide the above recommendations.

Data Governance

We provide expert services to support an effective data governance process and system that ensures creation and maintenance of the right definition for each metric and KPI, tied to the business purpose for which the metric is to be used. We help establish processes and procedures to ensure proper data and usage policies, with proper stewardship for data and definitions. We also support the design, build and maintenance of systems and processes for proper data definitions, and documentation of business purposes for which the metrics are to be used.

User Experience Strategy and Architecture

User experience – easy to use, intuitive, business-friendly, customizable, consistent dashboards and reports – are critical to gain the full value of the investment in BI.

Innive has developed an extensive K-12 Analytical Framework using modern UI and UX design standards such as CSS, HTML 5, and JavaScript and integrated the framework with most common BI platforms including Oracle, Tableau, etc. to create an outstanding user experience. The framework was developed in conjunction with several partner schools and provides what is needed for today's challenging K-12 educational environment. The framework can be customized to meet LAUSD unique requirements but can provide a fast start in providing value to LAUSD users. The framework enables the provision of a professional application look and feel to the dashboards, allowing users to have intuitive navigation, consolidation of dashboards and reports in one area, with single click navigation from one subject area to another. The framework enables the organization of information into business-oriented insight areas, bringing together relevant information from multiple functional areas into logical groups based on user profile/ persona. The framework allows the users to make full use of the underlying power of any BI solution and introduces user-friendly and rich presentation features to greatly enhance functionality and usage of the native reports and dashboards.

In developing and delivering the framework, Innive has demonstrated its high expertise in developing user-friendly dashboards and analytics. The framework is an optional component, but the services and experience of the team can be made available as a service for LAUSD to design and deliver powerful dashboards that are user-friendly and role-based to get the best value for the investment being made.

Turnkey Solutions

Innive specializes in developing and providing solutions to our customers. While there are several areas related to K-12 for which Innive has pre-built solutions and modules, Innive has been partnering with school districts like LAUSD to develop and deliver custom solutions on a turnkey basis. In many cases, depending on the needs and opportunities we see at specific school

districts, Innive helps to conceptualize the solution that is required for the district, and works end to end to develop the concept into firm requirements, design, build, and deliver a fully functional solution to the district. We also add training and knowledge transfer to ensure that the district can effectively use and maintain the solution.

Training

Training is a key segment of Innive's services. We consider training & transferring knowledge to the LAUSD business and technical resources personnel a critical aspect for the successful implementation of any solution. Innive understands the learning experience can be significantly different for the same subject, with different delivery methods and deliverables, and we insist on exercising due care and attention in selecting the right method and deliverables for a successful training program.

Innive's proven training approach includes key deliverables for effective user acceptance and adoption. We cover a combination of business and technical training, and the use of specific solutions to address the business requirements. With multiple training delivery methods, we offer options for sustaining training plans and multi-location education.

Choosing an ideal training program will provide the most relevant and effective information. We realize that it takes a serious effort to craft an ideal training program that works for your organization. Utilizing the right training methods that align with your learners' needs and learning styles, are crucial factors while choosing efficient training and delivery methods.

Innive's approach to training is to conduct an initial assessment of your training requirements including:

- Timeline
- Stakeholder analysis
- Change management impact
- Subject matter expert (SME) availability
- Training rollout strategy
- Train-the-trainer identification
- Educational resources and support material requirements

The outcome of this exercise to develop a customized training plan and the associated Training Deliverables and Delivery Methods tailored to fit LAUSD's needs. Our Standard Training Deliverables and Methods of delivery are provided below:

Training Deliverables	Training Delivery
<ul style="list-style-type: none"> • Training Strategy & Approach • Training Plan • Training Delivery Checklist • Role-Based Training Curriculum • Training Materials • Train-the-Trainer Guide • Training Delivery • On-going Training & Performance Plan 	<ul style="list-style-type: none"> • Instructor Led – Classroom • Instructor Led – Virtual Classroom • Computer-Based • Train-the-Trainer • User Acceptance Testing • Desk-Side Coaching • Learning Labs

Our Typical Training Goals include:

- Training Administrators to understand, manage, and troubleshoot applications
- Ensuring that Power and End Users are comfortable with processes as well as applications
- Designing train-the-trainer programs so designated Administrators and Power Users train End Users periodically and on an on-going basis
- Providing support material to sustain learning over the life of the applications
- In addition, communication and change management activities are coordinated with training to ensure maximum project success

We have used a combination of traditional methods as well as new ones to increase the effectiveness of training to the users.

Using traditional methods, we have developed User Guides, To-Do Lists, Quick Cheat Sheets, and How-To documents and have shared them with users, provided instructor-led training, made the documents available via share point and other document sharing portals, and created links on the application landing page and the menu bar to allow easy access to the documents. To keep them current with changes, new functionality, etc., as part of the project team, we identify specific individuals in each organization (who are designated as the functional owners of the specific area of information) to be responsible for regularly maintaining the documents. We use a combination of Word documents, PDFs, Excel Workbooks, PowerPoints, Web pages (HTML), and Visio diagrams to document the training content and deliver them to the users.

In addition to traditional methods, we have employed the following methods which proved to be much more effective and helpful:

- a. Oracle User Productivity Kit (UPK) is easy to use, effective to document step by step process, and proves extremely useful with its “see it, try it, do it” features. More than the typically dry documentation delivered by a systems team, UPK documents generated by business users provide the right business context, explain the need for and purpose of any report or analysis, and identify what to look for, what action to take and how to initiate such

action. These are all value-added steps in the documentation process that have proven to be effective. UPK helps to shift the documentation from the systems team to the business team and makes the process more effective and useful. If LAUSD is open to adopting the Champion approach recommended by Innive, the Champions from the business would spearhead the UPK activities for their teams and make the training much more relevant and effective for their respective teams. UPK provides online capabilities that can be leveraged, while the traditional methods may still be continued to support those specific users who prefer such methods.

- b. Short Videos – in addition to the online tools, we have seen that short videos (maximum 3 minutes) developed using technologies like PowToon are very effective in providing business contexts, quick instructions, etc. A collection of short videos is much more effective and user friendly than a 10-page written document. The videos can be embedded on an application's home page and accessed by users while they are reviewing the application and their features. The PowToon videos are easy to create, mostly managed by business users, with minimum help from the systems team.
- c. User Community Pages with Jive or similar in-house collaboration technologies- creating user community pages with a blog for discussions, feedback for specific enhancements or bugs allow an effective exchange of information between the systems team and the users at all levels. Experience has shown that such community pages not only help to clarify user issues or address system bugs but more importantly help business teams to understand the business process better, identify areas of redundancy, and launch improvements to support better business outcomes. Champions play a critical role in managing the blogs and feedback pages, with support from systems or other teams, and act as the points of contact to address business issues and improvements.
- d. Mobile Extensions – Emergence of smartphones means that all documentation should be accessible via mobile, including short videos, etc. We strongly recommend considering mobile enablement as part of the core requirements right from the first stage of the project to promote better user adoption and improve user experience.

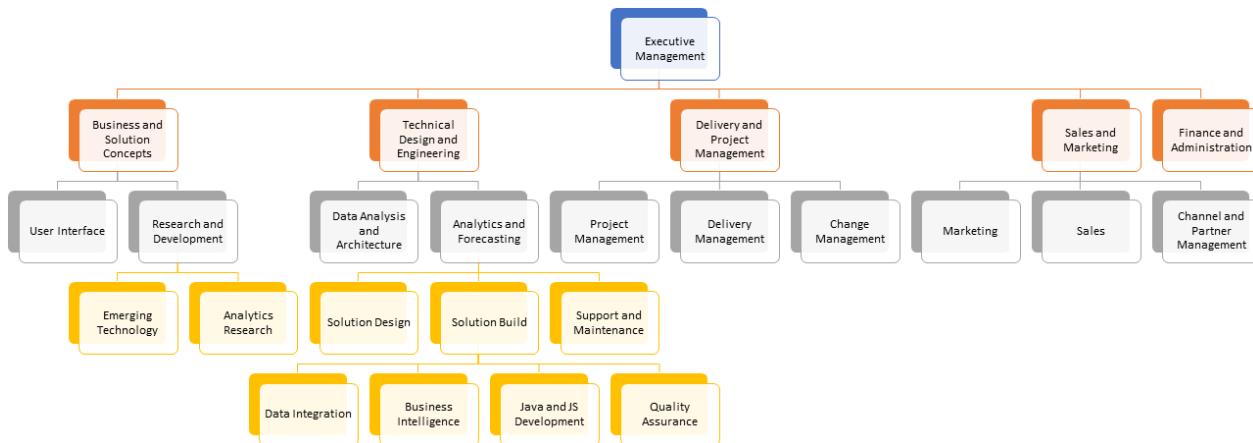
Upgrade & Support Services

Innive provides a comprehensive set of services, as direct services, and as managed services, for regular maintenance of systems, application of patches, handling OS and Application compatibility issues, and upgrade of OS and Applications with associated regression and progression testing. We help conduct a pre-upgrade assessment, including POCs and pilots, for the customer to understand the impacts and requirements of the upgrade, and help develop a playbook for successfully upgrading the systems.

We provide post-production support, for capabilities delivered by us as well as those delivered by others including the district. We have a well-developed production support service, with SLAs and service ticket management processes and resources, to provide both functional and technical support. We help manage the system, including ETL and data, on an on-going basis and alert the management pro-actively. We work with our customers to design the support system tailored to their needs.

Organization Chart

Innive's experienced staff are sourced globally, offering a unique perspective on business challenges and methods for solving them. We are experienced leaders in our industry with a background supporting large customers and deployments world-wide. We believe in a flexible organizational structure operating as flat as possible to remove any hurdles to effective collaboration and communication. Innive is nimble, able to develop and deliver solutions and provide services in a timely and efficient manner. An example is our follow-the-sun engineering cycle where development engineers continuously work on projects as the sun traverses the globe. Through a single 24-hour period, we provide three days of development against our projects, accelerating delivery. An organization chart is provided below showing the key positions and



Innive Org Chart

groups which make up the Innive organization.

Innive and its associates support a wide range of functional and technical resources, on a 24 x 7 basis. This means that our customers benefit in cost savings with Innive's global footprint, and enjoy fast paced support and development utilizing extended team that is available round the clock. Our flexible model can also provide immediate high availability of services during emergency conditions, helping customers mitigate risk.

Innive is based in Tampa, Florida with remote employees located across the country including resources located in Dallas, Texas. Based on the type of service requested by LAUSD, we will be able to accommodate your requests successfully with these resources. Innive corporate headquarters is located at 13097 Telecom Parkway North in Tampa, Florida with a number of resources remote throughout the nation. Services will be sourced as appropriate to meet the timelines and needs of LAUSD regardless of their physical location.

Innive Certifications

Innive and its partners possess a full suite of technical experiences and certifications to capably handle the requirements and specifications desired by LAUSD throughout this solicitation. Below you will find a list of qualifications and certifications as an example of our thorough technical expertise.

- Oracle Cloud Partner

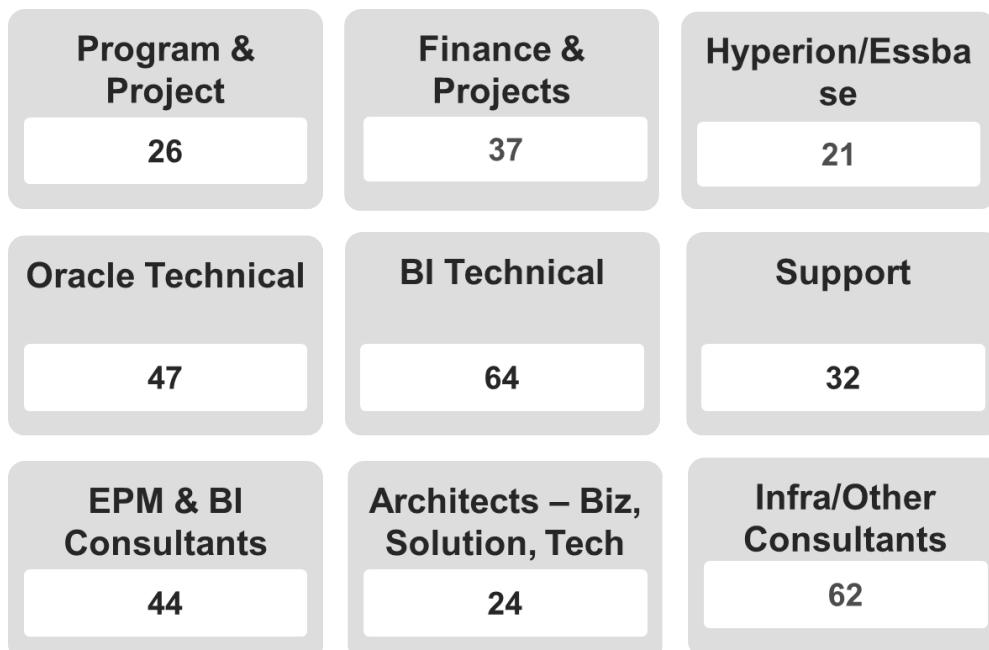
- Vendor partner with Amazon Web Services, Google Cloud Platform, Looker, SiSense, Tableau, Streamsets, Five Tran, IBM, and Microsoft Cloud
- OEM partner with Elastic Search with partnerships in progress with Camunda and UI Path
- Strategic partnership with Focus (SIS) and Schoology
- Oracle Ace Director and four Oracle ACE Experts in Database, BI, and ODI
- More than 65 resources certified with Oracle, Java, BI, System Administration
- Microsoft Certified Solution Expert – Private Cloud
- Microsoft Certifies Solution Expert- Microsoft Infrastructure Platform
- Microsoft Certified Technical Trainer
- Microsoft Certified Solution Associate- Server/ Client Infrastructure Services
- MCTS: Windows Server 2008, 2012, 2016 Network Infrastructure: Configuration
- MCTS: Windows Server 2008, 2012, 2016 Active Directory: Configuration
- MCTS: Windows 7, Windows 8.1, Windows 10 Configuration
- Microsoft Certified Professional
- VMware Certified Professional (VCP)
- Red Hat Certified System Engineer
- AWS Certified Solutions Architect Associate
- NetApp Certified Data Management Administrator (NCDA)
- NetApp Certified Implementation Engineer (NCIE)
- NetApp Accredited Sales Associate (NASA)
- EMC Information Storage Associate (EMCISA)
- VCE Certified Converged Infrastructure Associate
- CCNA, CCNP
- Brocade Certified fabric professional
- HP EVA Certified Professional
- EMC Cloud Architect Associate
- EMC Cloud Infrastructure Services
- Oracle Certified Professional
- MS SQL Server
- Tivoli Storage Manager
- PMP, ITIL, CSM

K12 Experience and Technology Expertise of Innive Resources

Innive is specifically focused on business intelligence, with a core set of industry focused pre-built analytical solutions, built with traditional as well as modern technologies, and all the resources in Innive have the background and experience in analytics. Innive has a full line of practices focused on BI and EPM areas, with over 350 resources, including contract professionals, who hold various levels of specializations, certification and focus in Oracle and non-Oracle technologies. Our resources specialize in all aspects of Oracle technologies related to data and BI, including OBI Suite, Oracle database and middleware, Data integrator, Data Architecture, Middleware, Golden Gate, Exalytics and Exadata. Our practice also extends to many of the modern technologies, both

on-premises and cloud, including Kafka, Elastic Search, Streamsets, Druid, Google Big Query, MongoDB, Graph DB, Fivetran, DBT, Apache Ignite, ESRI, Google Maps and various other open source solutions. Most of the resources possess formal education, like Computer Science Engineering, Data Architecture, Java, and Oracle Certifications etc., as appropriate and possess 5 to 25 years of experience in the relevant areas. The resources are encouraged to remain current with the evolving technology and all of them earn new certifications and undergo expert level training ongoing basis.

Innive has an established practice in K12 Education Sector, and Innive has been offering its solution, K12 360 to school districts of various sizes throughout the country. Most of the resources are involved directly in one or more current implementations of K12360 and have a firsthand experience in working with school districts and understanding their needs and criticality. Innive team understands the business needs, data structures, the KPIs and Metrics, and the processes applicable for K12 school districts. Many of the team members are also involved directly with LAUSD, and understand the systems, data, and processes within LAUSD.



Innive provides a flexible engagement model for our customers, offering full time onsite resources as required, while also offering managed services with an onshore-offshore flexible resource model. Innive is also able to onboard industry and technical experts for short-term durations on demand which reduces expense for our customers.

We comply with the labor description of LAUSD in all the prominent categories, offering resources onsite, offsite, and offshore. We have been providing resources meeting the labor descriptions and at or below the MSA agreed rates, both as T & M resources and fixed bid project resources for over 5 years.

Key Personnel

Innive is proud to present its core team of technology experts, who will be supervising, guiding, and managing the tasks called out in the Statement of Work through a set of well experienced staff members and consultants. Innive is supported by a large team of senior resources – both staff and consultants – with years of experience in the industry and strong performance records, who will be directly assigned to handle the tasks under the SOW, with guidance, support, and control by the experts.

Gautham Sampath, CEO of Innive, is a renowned Technical Expert. He has led several large scale technical implementations, including Pinellas County, Hillsborough County and Mastec. He is well respected as a leading technical expert in the areas of in-memory databases, performance management, Golden Gate replication, warehouse building, data modeling and architecture. He has previously held roles as Chief Technology Officer and has wide experience leading large technical teams, both direct and vendor teams, and has the ability to get his technical expertise well executed through the extended team. Previously Gautham has worked extensively in analytics, playing roles as Technical lead and architect for large US private companies, including Sun Microsystems and Essilor America.

Stewart Bryson, CTO of Innive, is the CEO of Red Pill Analytics (an Innive Subsidiary) and has been working with data and analytics since 1996. Stewart is an internationally recognized writer and speaker in the Analytics Community, and co-host for the video podcast Real Time BI with Kevin & Stewart. Stewart is an expert architect and modeler of data warehousing projects. Stewart has over two decades of experience in data architect and consulting. Prior to founding Red Pill, he joined Rittman Mead consulting as the US CEO in 2008, and later as the global Chief Innovation Officer. Rittman Mead offers consulting, training, mentoring and development support for BI deployments based on OBIEE, Oracle Database Server, Oracle Data Integrator and Oracle Warehouse Builder Oracle and other related BI & DW products. Stewart has participated in all aspects of platform delivery including general data warehouse design, design and development, database implementation and administration, and ETL development.

Ram Subramanian, COO of Innive, is a BI and Solution specialist. Ram is a well-respected professional in this area, and in his immediate prior role as Senior Director of Finance at Cisco, he reported directly to the CFO and drove large scale transformation programs. His primary responsibility is to drive the strategic plan of the organization, with extensive engagement with all the business leaders of the company, and direct his team to engage with users, socialize concepts, gather requirements, and work with the IT team to convert the requirements into solutions. He has authored several solutions at Cisco and outside and is well recognized for his ability to understand business requirements, recommend best practices and work with the leadership team to build cutting edge solutions. Ram has played a critical role in designing Innive's K12 360° solution and specializes in user experience and UI design. He brings over 25 years of business experience.

Mike Jelen is the Chief Delivery Officer and has been leading large and complex information technology projects since 1999. With a technical background and communication skills he has the ability to effectively communicate to non-technical and technical folks on the project. Mike is an expert architect and modeler of data warehousing projects using Snowflake, AWS, GCP, Looker,

Fivetrans, Oracle Analytics, Oracle ETL, Oracle DB, and ancillary products. Mike has 20 years of experience in large-scale Business and IT system implementations. Adept at building strong partnerships with Business and IT to align business goals with technology solutions to drive process improvements, competitive advantage and bottom-line gains Stewart has participated in all aspects of platform delivery including infrastructure, data warehousing, analytics design and development, database implementation and administration, and ETL development.

Ricardo Giampaoli was the First Oracle ACE in BI track in Brazil, EPM/BI Trainer, regular EPM/BI instructor at Hyperion's user conferences since 2013 on topics including optimization, integration, best practices, as well as several unclear technical topics. Strong technical background complimented by comprehensive practical knowledge of financial and accounting applications. Highly experienced in all phases of development including ETL, interface design, data analysis, data modeling, optimization, training, and project management in huge environments (18 billion rows per month). Known for developing innovative end-to-end solution because his deeply knowledge of all Oracle EPM/BI tools. Giampaoli has been leading and developing EIS/EPM/BI/DSS applications for over 20 years including 10+ years of Hyperion-specific experience. His core expertise is on design, development, and optimization of Business Intelligence systems using ODI to integrate, tuning and managing the entire environment, bringing the best of each EPM tools. He is certified in several EPM tools and is recognized for his expertise throughout the industry. In addition, he has personally executed several optimizations for his EPM clients: reducing the Hyperion cycle time in 95%. He has been involved in over 50 EPM/BI projects including big and complex implementation using multiple technologies like Planning, Essbase, ODI, OBIEE, PBCS, BICS and OWB.

The principals of the company are supported by an extensive team of expert resources, both onshore and offshore, and the teams are used for a combination of client engagement as well as for R & D and in-house solution development. Consciously, the organization structure has been kept relatively flat, and projects are managed in an agile manner, with minimum levels of hierarchy. We employ Jira/ Trello and similar collaborative tools to manage the projects in a collaborative and light weight model.

Innive POC and Experience with Agile and Scrum Methodology

Summary: Barath Ashokkumar, a well-recognized BI expert, who has over 12 years of experience delivering key initiatives for various school districts, is Innive's POC.

Innive is pleased to offer Barath Ashokkumar, a well accomplished and experienced functional cum technical expert in the analytical space, as the Single POC for this managed service engagement.

Barath has 12+ years of experience in Business Intelligence reporting and Process/ Domain consulting in Transport, Education and Automotive sector. Knowledgeable in Dashboard design, financial modeling, requirement analysis, requirement workshops, process consulting (As-Is and To-Be), writing use cases, creating wireframe / prototypes, data crunching and functional testing. He also has extensive experience in managing enterprise IT project life cycles through all phases using Waterfall and Agile methodologies.

Barath has been providing services to Clay County as a lead solution engineer in the last 5 years, taking the leadership role to define, conceptualize and deliver several critical dashboards including Executive dashboard, School search and compare, School profile, Student profile and Principal dashboard among other modules. He also played a critical role in the delivery of open data dashboard of Rochester School District, highlighting the district's performance to public.

He possesses a combination of functional skills, including a deep understanding of K12 subject areas, data analytics and insights, along with the required technical skills, to act as an effective partner with both business and technical teams. We sincerely believe that he will be able to add distinct value for the engagement. Barath has a Bachelor's Degree in Computer Science and a Master's in Business Administration from reputed education institutions.

Barath is well conversant with the Agile methodology and Scrum model of delivery, as adopted by LAUSD. All the key personnel of Innive, including the management team members and senior architects are fully familiar with Agile and Scrum, and have been adopting a practical form of Agile for managing both internal and customer delivery.

Proposed Personnel for Review

We have presented resumes of the following personnel in the pages that follow, as representative resumes to evaluate the technical strength of Innive.

	Category	Resource
1	BI Architect	John Parker
		Karl Schultz
		Barath Ashokkumar
2	Data Architect/ Data Modeler	Arul James
		Balaji Vivekanandhan
		Himanshu Khare
		Saravanan Damodaran
3	ODI/ETL Developer	Ricardo Giampaoli
		Chandrasekhar Somu
4	OBI Developer	Krisi Smith
		Angie Brown
		Felix Arokiaraju
		Venkatesh Bonde

John Parker

Analytics Strategy Advisor

- Function and Specialization
 - Finance and strategy specialization, focused on K12, public sector and other segments
- Deliveries
 - McKesson – Development of IT Strategic Plan
 - McKesson – Migration to Agile Development Practices
 - Coca Cola Bottling Plan SAP BW Integration
 - General Electric – State Sales Tax System Integrated Data Mart
 - PG&E – Electronic Metering System Implementation
 - State of Michigan's Statewide Data Warehouse (MIDB),
 - The City of New York's CitiNet Project, the largest Metropolitan Network in the World
 - State of Texas Statewide Accounting System
 - State of Texas, SACWIS
 - State of Illinois, SACWIS
 - St Jude's Healthcare Strategic IT Plan
 - Colorado Division of Wildlife – Colorado Card
 - Hospital Sisters Hospital System Strategic IT Plan
 - McDonalds – Rapid Development Methodology
 - McDonalds – Integrated Sales Data Mart
 - State of Arkansas ERP Implementation

Background

John brings significant industry experience having served in several senior management IT roles. He currently serves as a consultant VP of Analytics and Data Science at Innive, providing services as strategic advisor for several school districts, including LAUSD. He had been involved on a day-to-day basis in all aspects of LAUSD's analytic program serving a co-program manager with LAUSD staff. He participated in the Change Control Board (CCB), PMO review committee, and Dashboard Governance Council. He has worked on most all areas of the analytic program including:

- Developed strategic plan and roadmap for LAUSD, Austin Tx, Dallas ISD, San Francisco USD etc.
- Served as Architect and Senior Designer and lead the development of several subject areas :
 - Enrollment
 - Attendance
 - Discipline Referrals
 - Counseling Referrals
 - Student Testing and Assessments (SBAC, CELDT, DIBELS, FITNESSGRAM)
 - English Learners
 - Elementary and Secondary Marks
 - Gifted and Talented Education (GATE)
 - Special Education IEPs & Referrals
 - Special Education Service Prescriptions and Delivery
- Worked with LAUSD's training group to develop training courses and training materials for analytic self-service capabilities. The courses are now being offered at various locations throughout Los Angeles for school and district staff to learn the principles of ad hoc self-service reporting.
- Works closely with change management team to develop job aids, videos, and promote positive change using new analytic capabilities.
- Working with various accountability groups to capture necessary data for California, Texas, Florida and other state reporting and accountability requirements.
- Served a program manager for the development of the Superintendent's Key Performance Indicator dashboard

Previously, John assisted many organization in IT Strategy and Analytic programs. He has a deep understanding of data, processes, and delivering value.

Enfocus Solutions, President, and CEO - Managed product development, strategy, marketing and sales for software and service divisions.

W Group – Principal Consultant - Worked on IT Strategy projects

Maximus - Executive VP and CTO – Advised State, Local Governments on technology issues and managed large government IT projects

Karl Schultz

BI Architect

Function and Specialization

- Modern data and analytics architecture
- Oracle BI Certified

Representative Clients

- Doosan/Bobcat
- Valspar
- Federal Reserve Bank, Minneapolis
- National Marrow Donor Program
- Lower Colorado River Authority
- Uponor
- Knife River

Technical Skills

- Strategy
- Architecture
- Data Modeling
- Data Lake
- Data Integration
- Security
- Development
- Analytics

Education

- Luther College - B Computer Science, Physics, Math

Background

Mr. Schultz has been working in Business Intelligence and Data Warehousing for 20 + years. The last 14 years have been with OBIEE, Informatica and DAC. During that time, Karl has been developing complex Business Intelligence and Data Warehouse solutions in industries such as retail, healthcare, manufacturing, and financial services. Karl's experience includes management, project management, project lead, technical and business lead, strategic and business analyst, solution architect, data and technical architect, data modeler and ETL. His broad skills allow him to understand all aspects of projects and to create dynamic and effective solutions.

Management Skills

- Define and structure BI strategy road maps
- Personal and budget responsibilities
- Create and maintain vendor and partner relationships
- Establish and maintain BI standards and associated processes
- Clear and concise communication upstream and downstream within the organization

Data Architect Skills

- Design Star Schemas used in Data Warehousing applications
- Data ranging from small desktop databases to several Terabyte warehouses
- Create logical and physical data models
- Performance tuning and index recommendations
- ETL Maintenance using ODI, Informatica, PL/SQL and SQL
- DAC – Data warehouse Administration Console
- Oracle Applications

Leadership Skills

- Ability to delegate tasks and responsibilities focusing on efficient and organized teams
- Confident in abilities of others and myself
- Committed to the business and the people. Focusing on life balance and growth with each person.
- Being positive and creating a fun and honest environment to empower people to use their full potential

Project Management

- Create project plans
- Schedule and facilitate meetings, minutes, tasks, and resources
- Execute project plan, keeping resources on task and on budget
- Lead team of developers through project lifecycle

<h2>Venkatesh Bonde</h2> <p>OBIA DEVELOPER/ ODI Developer</p> <p>Function and Specialization To make a flow between the different source systems to data warehouse with the expertise in ETL models to fulfil the Business requirements.</p> <p>Representative Clients</p> <ul style="list-style-type: none"> • Starbucks • Securitas • Irvine • BioMarin • Mastec • Donaldson <p>Skills</p> <ul style="list-style-type: none"> • ODIA 11g • ODI 12c • ODI 11g and OBIEE 11g • DAC • IICS • Oracle database • Snowflake database <p>Certifications / Education</p> <ul style="list-style-type: none"> • Bachelors in electronics and communication engineering in KL University, Guntur 	<p>Background</p> <p>Venkatesh has 8 years of experience in ETL on Data Warehouse applications, directly responsible for the Extraction, Transformation & Loading of data from multiple sources into Data Warehouse and Hands on experience in Oracle platforms OBIA ODI11g, ODI 12c, OBIEE 11g, OBIEE12c, Oracle Database 12c and 11g. Venkatesh has implemented several physical data modeling, Fit/GAP analysis, developing the mappings to make flow from enterprise sources to DWH.</p> <p>Professional and Industry Experience</p> <p>Venkatesh has developed and enhanced the ETL Architecture flow over large data warehouses/business intelligence projects for a variety of clients – private sector, public sector– and has played end to end solution for Business Analytics/Business intelligence in various clients. Strong knowledge in development of data modeling to deliver their business needs.</p> <p>Implementation Highlights</p> <ul style="list-style-type: none"> ▪ Implemented the ETL architecture strategy to extract the data from Transactional sources, heterogeneous sources system to data warehouse with Business Intelligence platforms for a Payroll, HRMS, Projects Oracle technology (BIApps 11.1.1.x OBIA ODI 11g,12c, Oracle OBIEE 11g,12c) ▪ Developing packages by using ODI interfaces, procedures, load plan alongside implemented dimensional modelling on all three layers of the OBIEE repository to facilitate end user reporting. ▪ Expertise in Dimensional Modelling (star schema, snowflake schema, creating Facts, Dimensions and Measures). ▪ Expertise in designing the transformations according to the business needs and migration of Mappings from one environment to another Environment. ▪ Implemented integrated data model, ETL and data warehouse components in ODI for analytical reporting. Integrated with various source systems supporting the customer, billing, payment, supply chain analytics, Projects Analytics. ▪ Expertise in engaging with business analyst, understanding their needs, and designing physical data model the entities systems to meet their requirements.
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Ricardo Giampaoli

Data Architect/Senior ETL Architect/
ETL Engineer

Function and Specialization

- Leading and developing EIS/EPM/BI/DSS applications for over 20 years including 10+ years of Hyperion-specific experience

Representative Clients

- Dell, US
- Dell, Brazil
- Dell, Europe
- Cotrijal, Brazil
- Certisign, Brazil
- Fasano, Brazil
- RGE, Brazil

Technical Skills

- Hyperion Essbase 9
- Hyperion Planning 11
- Hyperion Financial Management 11
- Oracle Business Intelligence Enterprise Edition
- Oracle Big Data Essentials
- Oracle Hyperion Financial Mgmt 11.1.2
- Oracle Data Integrator 11g: Integration and Administration

Certifications

- Oracle Hyperion Planning 11 Certified Implementation Specialist
- Oracle Essbase 11 Certified Implementation Specialist
- Oracle Business Intelligence Foundation Suite 11g Certified Implementation Specialist
- Oracle Data Integrator 11g Certified Implementation Specialist



ORACLE
ACE

Background

Giampaoli was the First Oracle ACE in BI track in Brazil, EPM/BI Trainer, regular EPM/BI instructor at Hyperion's user conferences since 2013 on topics including optimization, integration, best practices, as well as several unclear technical topics. Strong technical background complimented by comprehensive practical knowledge of financial and accounting applications. Highly experienced in all phases of development including ETL, interface design, data analysis, data modeling, optimization, training, and project management in huge environments (18 billion rows per month). Known for developing innovative end-to-end solution because his deeply knowledge of all Oracle EPM/BI tools.

Professional and Industry Experience

Giampaoli has been leading and developing EIS/EPM/BI/DSS applications for over 20 years including 10+ years of Hyperion-specific experience. His core expertise is on design, development, and optimization of Business Intelligence systems using ODI to integrate, tuning and managing the entire environment, bringing the best of each EPM tools. He is certified in several EPM tools and is recognized for his expertise throughout the industry. In addition, he has personally executed several optimizations for his EPM clients: reducing the Hyperion cycle time in 95%. He has been involved in over 50 EPM/BI projects including big and complex implementation using multiple technologies like Planning, Essbase, ODI, OBIEE, PBCS, BICS and OWB

Implementation Highlights

- Responsible for the forecast global solution architecture using ODI, Planning and Essbase. This activity included the creation of a new EPM Solution implementation structure called "Modeless Development" allowing developing integration projects in half time (normally required before) and reducing in 90 % the timing of issue resolution or change requests, also this structure gives complete control over replicated partitions areas across the applications. Key participant in the removal of traditional blocks creation and the Business rules tuning reflecting a gain of 80% in execution speed
- Responsible for requirements gathering, modelling and developing the data warehouse, ODI Interfaces, OBIEE repository and dashboards providing to a grain cooperative in Brazil, an enterprise solution with near real-time information regarding all parts of the grain life-cycle, from the harvest to the sale
- Responsible for requirements gathering, modelling, and developing the data warehouse, ODI Interfaces for cloud integration, BICS repository and dashboards, PBCS dimensions, forms, and business rules, providing an enterprise forecast and report solution for a 5-star hotel chain in Brazil
- Responsible for modelling and developing the ODI inbound, outbound and metadata maintenance interfaces for DFS Planning application as well the Business Rules development using Calculation Manager
- Responsible for modelling and developing the ODI conversion interface to extract the data from production Planning applications, re-class the data using an entity/account combination to re- allocate the date in new products
- Responsible for the development of a Global Datamart using ODI & Essbase

Angie Brown

BI Developer/ Release Lead

Function and Specialization

- Snowflake Certified Associate
- Looker Data Analyst
- Looker Professional Services

Representative Clients

- Facet Wealth
- Doosan
- Clarivate Analytics
- Calix
- Caffeine TV
- Backcountry.com

Technical Skills

- Data Modeling
- Data Lake
- Data Integration
- Development
- Analytics

Education

- University of Utah-David Eccles School of Business, Bachelors of Science, Information Systems

Background

Angie has 10 years of experience providing business intelligence reports, dashboards, and ad-hoc analysis capabilities to departments to help drive key goals and decisions. Responsible for database analysis, Star Schema/Fact and Dimension design, ETL, documentation, and implementation of reporting and analytics infrastructure from start to finish. Worked with product managers, business analysts to understand and translate requirements into various front-end tools (ie, OBIEE, Looker). Utilized multiple ETL/ELT tools to pull, clean, and import data. Research and fix data discrepancies with all data sets, program debugging, troubleshooting, and data investigation issues as they arise.

Skills and Expertise

Business Intelligence	Data Warehousing	OBIEE
Oracle Data Integrator	PL/SQL	Data Warehousing
OLAP	SQL	Fivetran
Data Modeling	Databases	Database
dbt	Architecture	Administration
Solution Architecture	SQL Tuning	Big Data
Oracle Enterprise Data	Looker	Big Query
		Snowflake

Experience Highlights

- Led the team with an Agile-based methodology utilizing JIRA to track work for each sprint. Lead daily standup meetings and the work of the team
- Designed a Star Schema data model for a multitude of sources (advisor suite, zoom, QuickBooks, stripe, SFDC, etc.)
- Replicated all data from required sources into BigQuery Stage Dataset
- Used DBT to load and transform required data from the replication layer Stage DataSet into the data warehouse EDW DataSet
- Built automated testing via DBT to validate foreign key relationships, unique keys, not null, and various custom tests
- Utilized DBT hooks to remove deleted records from the EDW DataSet
- Designed complex Dashboards and Looks (which included user retention, active users, broadcast hours by week, etc) for Executive Team and Company using OBIEE.
- Used advanced LookML logic such as Derived Tables, Parameters, Liquid, Extends, Custom Links, HTML formatting, and more to maximize value and user adoption of Looker
- Provided Co-Development work with development user to cover LookML Concepts, review custom Dimensions and Measures, as well as unique table calculations developed for their Dashboards and Looks

Kristi Smith

BI Developer/ Project Coordinator

Function and Specialization

- Snowflake Certified Associate
- Looker Data Analyst

Representative Clients

- Calix
- National Marrow Donor Program
- US Bank
- AgriBank
- Merrill Corporation

Technical Skills

- Project Coordinator
- Data Modeling
- Data Lake
- Data Integration
- Development
- Analytics

Education

- MS, Organizational Leadership, Winona State University
- BBA, Marketing and Finance, The University of Iowa

Background

Kristi has been working in Analytics and Data Warehousing of wide-ranging experience in all facets of commercial software industry for areas spanning banking, high tech, real estate, telecommunications, distribution, banking, and logistics for over 5 years.

Skills and Expertise

Looker

- GCP (various services)
- dbt (data build tool)
- StreamSets Data Collector
- Clubhouse PM software (RPA R&D team)
- Tableau 10
- Oracle Business Intelligence 11g/12c
- QlikView 11
- Experience with Iterative & Agile delivery methodologies
- Design and development of complex reports and dashboards
- SQL

- Detail-oriented with a passion for customer success and technical excellence
- Collaborate with key business units to gather requirements and to understand business processes
- Ability to effectively communicate with business and technical teams
- Comfortable in fast-paced environments
- Conduct end user training
- Strong presentation skills

<p>Chandrasekar Somu</p> <p>Senior Data Engineer/ETL Lead</p> <p>Function and Specialisation</p> <p>Experienced IT professional with Technical and Management background, working on Data Warehouse, Data Engineer and Cloud technologies.</p> <p>Representative Clients</p> <p>LAUSD Global Payments Commonwealth Bank & ANZ Amerprise Financial Rakuten Marketing Airtel CRM Analytics StarWood Hotels</p>	<p>Background</p> <p>A dynamic IT professional. Holding a master's in computer science engineering. with more than 10 years of hands-on extensive experience with Data warehouse and cloud technologies, Somu is a senior Data Engineer/ETL Lead, providing solutions in various verticals.</p> <p>As a senior resource, he is involved in effective leadership, <u>team-building</u> and project management. He is highly flexible and a proven performer in managing multiple <u>project/task</u> demands and delivering results on time. With expertise in analysis, design, development, and support, he also leads the team effectively and involving in non-technical activities for the growth of the company. I enjoy the mentoring experience, to help others grow and develop, while at the same time achieve better overall performance, and improve engagement. Fast learner, interested in continually improving his skill, ensuring high-quality of delivery and fulfilment of business needs.</p> <p>Implementation Highlights</p> <p>Have handled several complex projects involving batch as well as real time or near real time integration, using a variety of ETL technologies and processes. Has been a lead developer, handling the ETL activities for LAUSD Executive Dashboard and <u>adhoc</u> reporting capabilities. Expert in DBT and airflow that are used for the cloud Datawarehouse build and refresh.</p> <p>A key element of the lead role is the leadership and managing a team of technical consultants spread over multiple time zones. A key achievement during this time was developing capability within the team to meet the expanded accountabilities required for the success of the projects.</p> <p>Lead and Participate in Stakeholder/Business Analyst meetings for requirements gathering and analysis supporting all project initiatives. ■ Architect, Design and implement Technology Architecture for a major IT Project in Digital Learning and DWASS Product (Datawarehouse as a Service).</p> <p>Skills</p> <ul style="list-style-type: none"> • ETL - Informatica Power Center 8.x, 9.x, 10.x, Informatica Power Exchange, IICS • ELT - DBT, DBT-Cloud, Streamsets • Cloud WareHouse - Google Big Query, SnowFlake • Database - Oracle, Sql-server, PostGres • Cloud PlatForm - GCP, AWS • Tools - CronJob, TWS, WLA, AirFlow, Gitlab CI/CD, Docker, and Kubernetes • Languages - Python and Unix Shell Script • SDLC - WaterFall Model and Agile Scrum Model • Project Management - JIRA, Service-Now and ALM
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<p>Felix Arokiaraju</p> <p>Senior BI Developer</p> <p>Function and Specialisation</p> <p>Experience in BI and web development especially Front-end using i360 Framework, React, and Java Script</p> <p>Representative Clients</p> <ul style="list-style-type: none"> • Los Angeles Unified School District • Kohl's Digital, Milpitas • Walmart, Bentonville • Nike Retail, OR • HEB Ecommerce • The McGraw-Hill Companies, Inc and other major clients as RBS, Citibank to name a few. <p>Skills</p> <ul style="list-style-type: none"> ■ Front End Tools (Javascript, React Js, Context API, Redux, Angular Js, HTML, CSS). ■ ES6, Lodash, Webpack ■ Compatibility developer in Web (Multibrowser) ■ Responsive Web development and Adaptable Web development with Mobile first approach ■ Node Js as Middleware and Environment ■ Data integration, Restful API integration and Microservice integration support ■ AMP technology, Performance tools (Lighthouse) 	<p>Background</p> <p>Felix Arokiaraju is Strategic, focused, and Technical consultant, with 15+ years of experience in Requirements Analysis, Support in Architectural design, Front end development, Team Leadership, Mentoring, Request for Proposal (RFP) Estimation, Technology Analysis, Migrations, Production Support, and Maintenance of Web Applications on Engineered and Non-Engineered systems. Experience in handling multiple assignments simultaneously and coordinating deliverables with key stakeholders in cross-functional groups and meeting the ongoing and overlapping project deadlines in fast-paced environments. Experience in developing and mentoring teams as per the project requirements.</p> <ul style="list-style-type: none"> • Development lead for LAUSD Executive Dashboard and a significant contributor to Whole Child and Open Data. • Working as React JS based Front-end developer in Retail Domain, can support MERN stack and has knowledge over CRUD operations with Node, Express & MongoDB • Expertise in UI Design and Development using HTML5, CSS3 (SASS, LESS), Bootstrap and JavaScript as dynamic and programming language that follows W3C Web standards and successfully managing all facets of application development. • JavaScript developer, with good understanding in implementing the features of ES6 like arrows, modules, block scoping, promises and enhanced object literals. • Good knowledge and hands on experiences on client-side JavaScript framework /libraries including Jquery, React JS, Angular 1.x/4.x. • Able to fix Browser/device compatibility UI issues, Mobile web device debugging using simulator/emulator and troubleshooting using Logging (Splunk & Google stackdriver) • Acting as a Technical lead, in leading a team of 2 or more during the entire SDLC, together with standards and best practices • More interested at Responsiveness (RWD & AWD), scalability, Mobile first approach, Performance tuner, compatibility, Test driven development (TDD) • Also gained knowledge in End-End architecture, in understanding requirements, technical solutioning in bringing the idea to design, then implementation. • Also involved in Testing the developed tool/project with unit testing, simulator testing with (Lighthouse in chrome browser), analysing test cases and running Jenkins jobs which automates the test cases. • Involved in most of the deployment and production engineering support and other post production activities. <p>Implementation Highlights</p> <ul style="list-style-type: none"> ■ Lead the team with Planning, Design and Developing an Analytic Dashboard from scratch.
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	<ul style="list-style-type: none"> ■ Delivered Project in Multiple faces and deployment support to Production and <u>Post Production</u> support ■ Lead and Participate in Stakeholder/Business Analyst meetings for requirements gathering and analysis supporting all project initiatives. ■ Proven ability to deliver the message in a very precise, efficient, and structured process. Experienced in presenting solutions to the Executive team and influencing them with the best solutions for the required outcome. ■ Mentored Junior folks and Freshers and support in scale up them to speed and delivered quality application on time ■ Participated in Recruitments to increase quality workforce for the Institution. ■ Ensure and triage in Unit testing with the team and make sure about 95% of code coverage ■ Did Splunk and Google console log analysis in debugging and <u>Troubleshooting</u> in finding with error logs, exceptions, business logic and log analytics ■ Worked with Third parties like Google folks in ensuring their libraries and SDK to fit and guide them to meet company & project standards.
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Barath Ashokkumar

Solutions Engineer

Function and Specialization

Experienced Business Analyst with extensive Business Intelligence and Analytics knowledge

Representative Clients

- Rochester School District
- Clay County School District
- Toyota
- Honda
- Avery Dennison

Skills

- BI Solution Architecture
- Wireframe and Prototype
- Business Consulting and Analysis
- Data Analysis
- Process Consulting and Analysis
- Product Management (waterfall and Agile)
- Analysis and Design Documentation

Certifications / Education

- MBA in Marketing and Systems
- Bachelor of Computer Science Engineering
- Certified in Business Analytics from Wharton
- Certified Scrum Product Owner
- Consulting / BA Training
- Strong understanding of Business Analysis Knowledge Areas

Background

Barath is an experienced BI solutions engineer, with a combination of functional and technical skills, who effectively interacts with business and IT domains, and comes up with effective solutions to meet the business requirements. Barath has extensive and varied Business Intelligence technology experience including Power BI, Micro Strategy, Tableau and Hyperion.

During the last 48 months, Barath has been providing services to Clay County as a lead solutions engineer, taking the leadership role to define, conceptualize and deliver several critical dashboards including Executive dashboard, School search and compare, School profile, Student profile and Principal dashboard among other modules. He also played a critical role in the delivery of open data dashboard of Rochester School District, highlighting the district's performance to public.

Barath has about 12 years of experience in Business Intelligence reporting and Process/ Domain consulting in Transport, Education and Automotive sector. Knowledgeable in Dashboard design, financial modeling, requirement analysis, requirement workshops, process consulting (As-Is and To-Be), writing use cases, creating wireframe / prototypes, data crunching and functional testing. He also has extensive experience in managing enterprise IT project life cycles through all phases using Waterfall and Agile methodologies.

Implementation Highlights

- Conceptualize & design BI dashboards, define functional metrics & business dimensions to address stakeholders' areas of interest for the below mentioned home-grown products being built by Innive, Hexalytic's sister firm.
 - K12 360: K12 analytics solution to serve School districts
 - People 360: Comprehensive Analytics solution for comprehensive HR management
- Barath was Product Owner for Next Gen telematics services for a world's largest car selling OEM. As a product owner, he was responsible for
 - Conceptualizing the product and developing the product backlog
 - Developing data requirements for telematics services with the focus on business value realization
 - Creating reporting dashboards to aid tactical and operational decision making for marketing and accounting business users
 - Managing the program, coordinating with multiple service providers for the data they own. He also Owned the release planning and facilitated the development of Business Intelligence system
- Barath was a product lead, representing the marketing group, for Incentive Systems. The application was envisioned to provide leading solution for administration and payment of vehicle incentives for a major American automotive sales company. Along with solution development, he led the creation and prioritization of business requirements. He strategized the implementation of tier wise credit rating & repayment duration in the area of Incentive planning to aid better financial decision making. His responsibilities also included end user training, guiding prototype and functional requirement development along with end product validation.
He was a Business Analyst for an Offer management system for the same client performing impact analysis and leading the functional testing.
- For a large global manufacturer of Apparel branding and label products, he played the role of onsite functional consultant. He orchestrated business workshops with the heads of Product Development and Customer Services team to understand company specific processes to come up with process improvement recommendations.

D. TECHNICAL SOLUTION

Overview:

The pandemic has significantly changed the way educational institutions operate. For school districts and schools, ensuring their students have continued access to the classroom has become their utmost priority. The need to offer and support remote learning environments has significantly increased the volume and scale of student and educational assets managed by the school districts, thus posing significant challenges to their IT support teams.

With their operations witnessing exponential growth, IT asset managers have realized the need for smarter tools that will not only meet their traditional needs of tracking and monitoring but also support their decision-making with actionable insights.

Innive's analytics-enabled IT asset management solution is custom built to meet the unique demands of K-12 school districts. We provide a complete, managed asset lifecycle solution covering hardware and software deployment, discovery, inventory management, license management, vendor management, maintenance, and invoice management among others. The solution offers role-based customization enabling IT technicians, executives at district offices, and schools to perform their roles better and aids them in their strategic and operational decision-making with actionable insights supported by strong factual data. The solution encompasses a wide array of features that helps school districts to streamline and optimize their processes and efforts towards planning, deployment, tracking, and maintenance of district assets. Additionally, through integration with the existing applications and environment, our solution provides a holistic view of IT asset management under one single umbrella. Our comprehensive reporting module is flexible and offers school districts customization options to generate reports at various levels of granularity – district level, school/office level, and student/staff level. The dashboards provide the school districts with real-time insights on key performance indicators backed by enhanced visualization and dynamic narration. The various views made available as part of the dashboard help the school districts to summarize, analyze and drill down into the various transactional operations, thereby supporting decision-makers to make informed decisions towards procurement, license renewal, prioritization of service tickets, invoice payments, and asset utilization among others.

Hexalytics EAM is an enterprise-grade, ITIL-compliant, next-generation ITSM solution. With a powerful workflow, configurable page designing component, AI functions, collaborative functions, and mobile solutions, it delights the end user experience and increases self-service adoption, decreases the mean time to resolve (MTTR), and brings in considerable cost benefit.

	Multi-Tenant Flexible Licensing Model with Unlimited End-user Support		Customizable Reflect your Brand Identity, Dynamic Template with Attributes and Rules to fit your needs
	SaaS based full ITSM solution With 24x7 real time monitoring		Integration Extensible with API's and Ready-to-Use Adapters for Enterprise Products
	Browser Based Device Agnostic Contemporary & Intuitive UI		Safe & Secure access Multi-Factor Authentication Single Sign On
	Real Time Metric Dashboards Call QA Ticket Performance Metrics		Reports Monthly, Weekly, Daily, Hourly Drill Down, pdf, Word Canned
	Ticket Trends and Escalations Self Heal Understand End user intent and help resolve. Auto routing of tickets		Conversational Chatbots Resolve using Invasive & Non-Invasive techniques
	Mobile Mobile Approvals and Assignments Quick Tickets. Real Time Status updates & alerts		Real Time Alerts Desktop Notifications, Mobile Alerts, Outages, Misses, Escalations
	Ticket Creation via Email Templated response Auto Triage		Collaborations Live Presence, Live Chat Kanban Boards, Posts, Discussion Threads
	Voice Services Sentiment Analysis and Visual IVR		NLP Engine To predict, Understand Intent and Help in KB Search
	Dynamic Form Builder Configurable Workflow Engine Predefined Task Library		Automated Event Monitoring For SLA tracking, Missed FLR, High Ticket Tracking
	Forecast Call Volumes and Predict Workforce		

Hexalytics EAM is a SaaS-based solution hosted on **AWS cloud infrastructure** in a High Availability environment with necessary audit and security controls. It is built using a **No-Code/Low-Code tool**. This is a multi/Single tenant solution with flexible licensing model with unlimited end-user support. Solution is extensible with APIs and ready-to-use adapters for enterprise products. Apart from the production environment, Innive can also provide development, QA, and pre-prod environments on a need basis.

Solution Approach:

Innive's K-12 IT Asset Management Solution (named: Hexalytics EAM) is **No Code Low Code solution**, it will act as an ideal partner to the Los Angeles Unified School District (LAUSD), enabling you to:

- **Plan** your hardware and software asset requirements by providing you with real-time insights into your assets, thus helping you map the current inventory against future requirements and optimizing your procurement and license management schedule
- **Deploy** assets rapidly with minimal manual intervention by leveraging barcode and RFID scans
- **Track** assets distributed across multiple sites in real-time, thus ensuring greater visibility and control over your hardware and software assets

Efficiently manage Service requests with an inbuilt help desk to seamlessly register, organize, prioritize, and resolve tickets. As your partner, we will bring in the right resources with a wide range of skill sets that will help you in the design, build model, quality assurance, and deployment of ITAM Services Solution. We shall also bring our experience in the adoption and institutionalization of best practices as seen in other organizations where we have delivered similar value. Innive is flexible and nimble; we can support requests from LAUSD on short notice to support its rapidly changing staff and project environment.

Innive is fully versed with the expectations from each of the mentioned roles due to our experience supporting large and small projects and initiatives. We have redesigned processes and programs for customers through our consulting engagements, including the implementation of change management strategies aligned with industry-leading best practices. As a solution provider of web-based solutions, we are inherently aware of the technologies and methodologies to deploy capable web-based systems and applications. Furthermore, we routinely manage large-scale highly visible enterprise projects and deliver knowledge transfer and training to our customers via multiple methods and mediums.

Innive's customer engagement approach is to partner with you. We can deliver the staff and services that meet your needs. We can provide long-term resources onsite daily, integrated with your organization to provide key insights and experience throughout a project lifecycle. We can also provide short-term, ad hoc, or urgent-need resources to cover a wide range of projects and needs. The dashboards, methodologies, and processes quoted in this proposal response are Innive Inc's copyright and intellectual property.

Asset Management Module – Hardware

With the volume of assets managed by the school districts and schools witnessing exponential growth, we understand the need to streamline the process of asset management by leveraging smarter tools. The Discovery and tagging features of our solution will help LAUSD to discover and track all its assets with minimal manual intervention. In the process, it also helps capture all the critical parameters associated with the asset, which include:

Hardware:

- ✓ The geographical location of the asset
- ✓ The current state of the asset
- ✓ Asset usage information
- ✓ User information
- ✓ Current system properties
- ✓ Hardware log history

This vital feature enables the asset managers to:

- Have complete visibility and control over their IT environment
- Ensure compliance and audit preparedness
- Reduce operational downtime with better change/configuration management planning
- Optimize the usage of assets
- Streamline procurement, and software license management, and have better control over their budget

The screenshot shows the 'Assets' page of the system. At the top, there's a header with the school district logo, the text 'Los Angeles Unified School District', and 'Keep track with your assets'. On the right, it says 'Welcome Adam Smith' and has a 'Logout' button. Below the header is a navigation bar with icons for Dashboard, Assets (selected), Students, Staff, Software, Locations, Help Desk, and Invoices. The main area is titled 'Assets' and shows a table with 39 assets. The table columns include Checkbox, Type, Asset Code, Serial Number, Site, Manufacturer, Asset Class, Assigned to User, and Actions. The data in the table is as follows:

Checkbox	Type	Asset Code	Serial Number	Site	Manufacturer	Asset Class	Assigned to User	Actions
<input type="checkbox"/>	Chromebook	AC-12884	SR-12884	Phoenix	Dell	Staff Devices	-	
<input type="checkbox"/>	Chromebook	AC-3654	SR-3654	Phoenix	Dell	Staff Devices	-	
<input type="checkbox"/>	Barcode Scanner	AC-95897	SR-95897	Georgia	HP	Class Room Rent	-	
<input type="checkbox"/>	Tablet	AC-78339	SR-78339	Long Green	Dell	Device that Go Home	-	
<input type="checkbox"/>	Barcode Scanner	AC-96593	SR-96593	Phoenix	Dell	Staff Devices	-	
<input type="checkbox"/>	Tablet	AC-21190	SR-21190	Long Green	Dell	Device that Go Home	-	
<input type="checkbox"/>	Barcode Scanner	AC-3226	SR-3226	Phoenix	Dell	Staff Devices	-	
<input type="checkbox"/>	Tablet	AC-89064	SR-89064	Long Green	Dell	Device that Go Home	-	

Figure 1: Manage hardware assets, with provisions to add, edit and remove assets, check-in, and check-out assets

The screenshot shows the 'Asset History (AC-12884)' page. At the top, it has the school district logo, 'Los Angeles Unified School District', 'Keep track with your assets', and 'Welcome Adam Smith' with a 'Logout' button. The left sidebar includes icons for Dashboard, Assets (selected), Students, Staff, Software, Locations, Help Desk, and Invoices. The main content area is titled 'Asset History (AC-12884)'. It features a search bar for 'Search Asset Code'. Below the search bar is a list of sections: 'Purchase Information', 'Device Information', 'Asset Assigned', 'Asset Turn-In', and 'Asset Tickets'. Each section has a collapse/expand arrow to its right.

Figure 2: Detailed individual hardware asset information – Purchase info, asset info, and asset history

Figure 3: Hardware asset Check-in and Check – out

Innive' mobile application simplifies the asset check-in and check-out process by allowing users to utilize their mobile phones for scanning assets QR and barcodes. This feature increases transparency, mitigates risks, and helps asset managers accurately maintain a complete record of their asset's location, usage, and responsible users.

Help Desk

The help desk module acts as a single, centralized portal for raising, monitoring, and managing all service tickets on hardware assets.

The service catalog feature helps in categorizing service tickets appropriately and assigning them to the right technicians, which helps in the timely resolution of the tickets. In addition, the breakdown of service tickets by their status and priority helps in grouping the tickets that need immediate attention and optimizing the use of internal resources towards ticket resolution.

Within the asset check-in workflow, asset managers also have the provision to initiate the creation of a service ticket. Based on the status of the checked-in asset, an appropriate service ticket can be raised, which is then allocated and communicated seamlessly as push notifications to the relevant stakeholders.

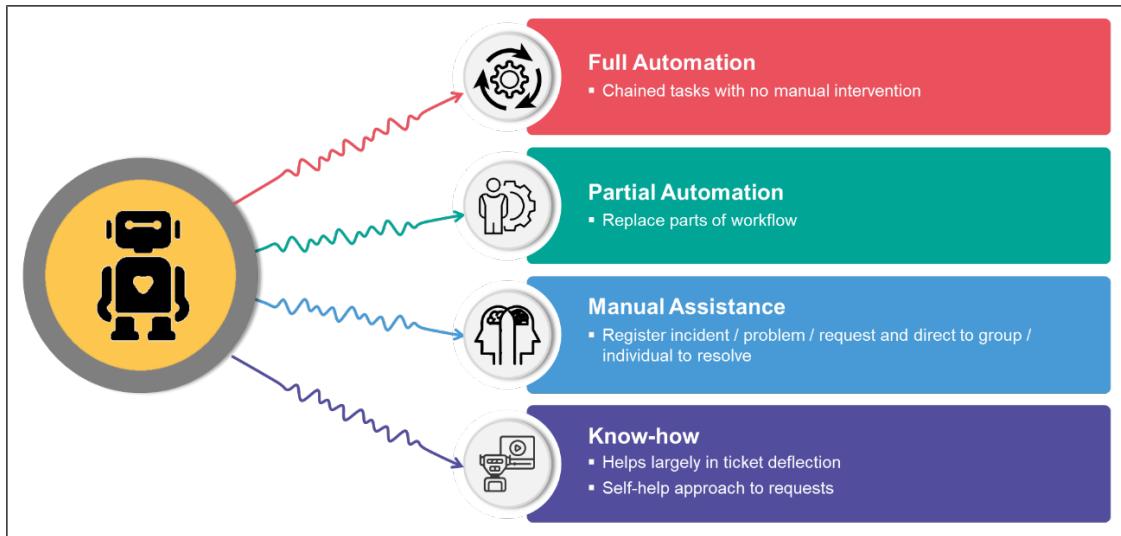
As part of the service ticket, asset managers can record the work executed, cost incurred, time consumed, assign fines to concerned users, attach relevant files, and spare parts consumed while executing the tickets. With this information, asset managers will have a holistic view of their tickets and the solution also offers them the ability to analyze and deep dive into their ticket resolution process by drilling down to individual ticket and technician levels.

Figure 4: Creating a service ticket

Helpdesk Monitoring

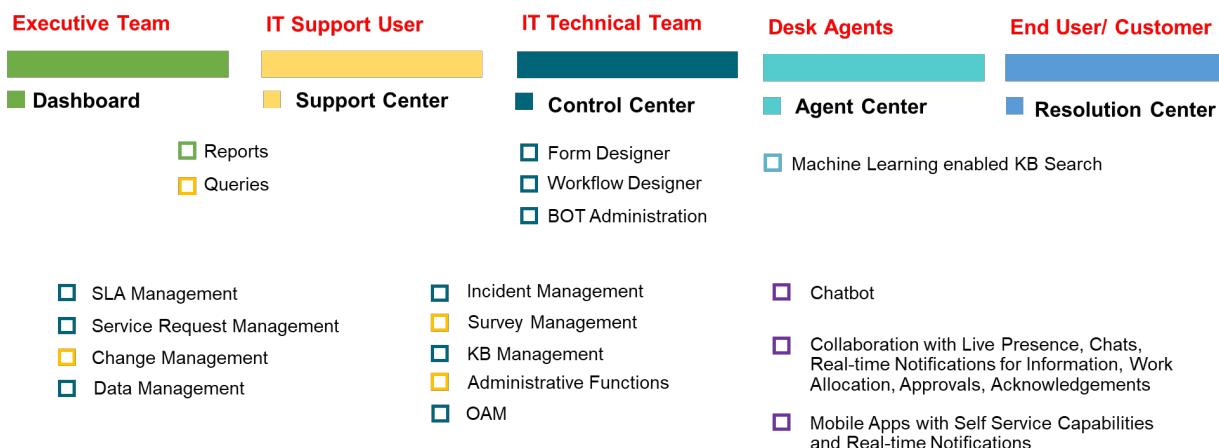
The Helpdesk can define their incident creation process and configure the approaches to resolve. As shown in the diagram below, the options for incident creation are:

- Manual creation, where the monitoring personnel uses the resolution center or the classic view to creates the incidents
- Configure the monitoring tool to invoke the incident creation API and create a ticket in Hexalytics EAM. Based on the definitions built in Hexalytics EAM (category, type, item) the incident can be automatically routed to the right group/individual.
- The monitoring tool can invoke the Hexalytics EAM bot that can take two approaches to fully automate and resolve the incident. This is done either by executing scripts/consuming APIs or invoke an RPA such as Work Fusion or UI path.
- The automation can be semi or in full



INC/SR Management

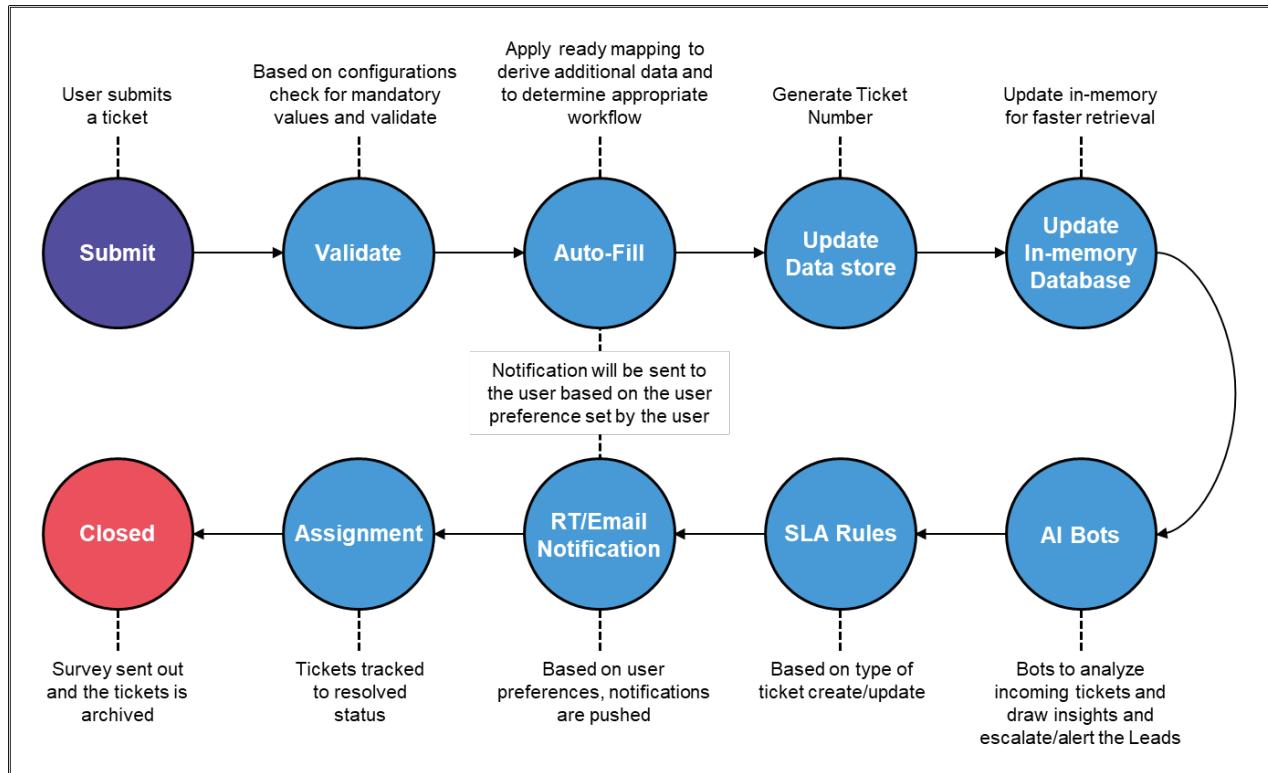
Hexalytics EAM also has a persona-based design as shown below:



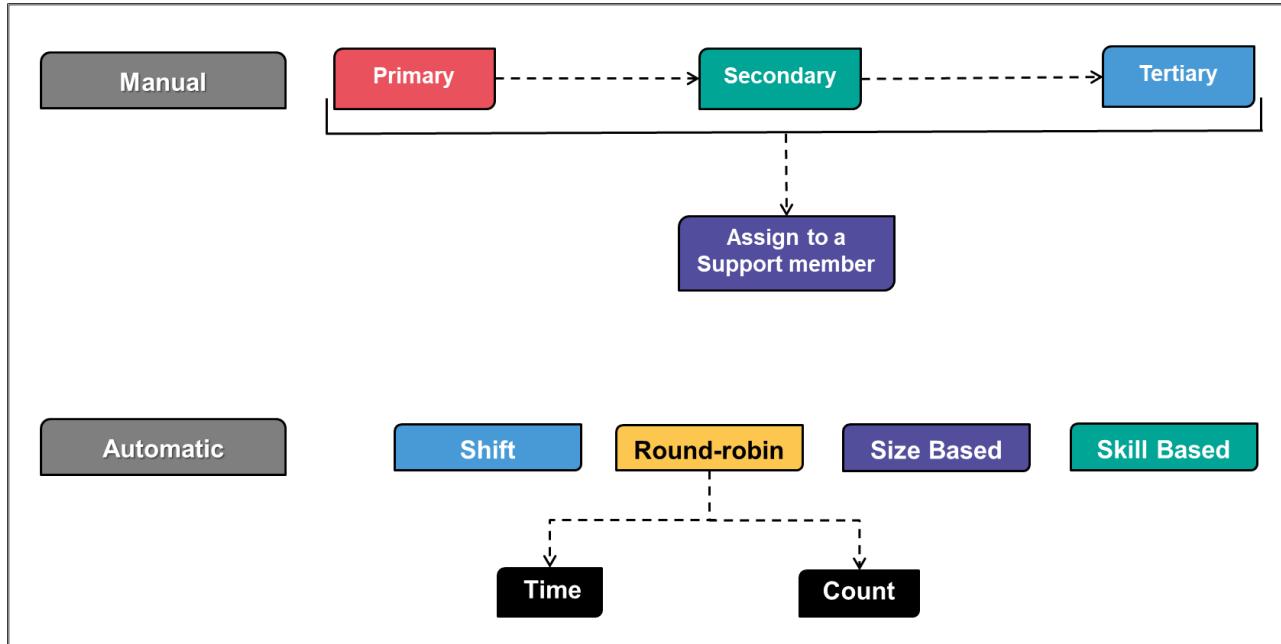
There are multiple means by which INC/SR creation can happen such as

- Any other system/application can create INC/SR by calling Hexalytics EAM API
- Monitoring application which keeps checking the health of application in the organization can create INC/SR with predefined priority and severity and assign it to the right group or may take the automation approach to even resolve an incident.
- End users can use the resolution center and report incidents. Complex forms such as access requests based on roles can be designed and published for end user consumption. Workflows can be configured for assignments, approvals, and notifications.
- Support users can either use the classic view or the resolution center to create INC/SR
- Incidents can also be created via email

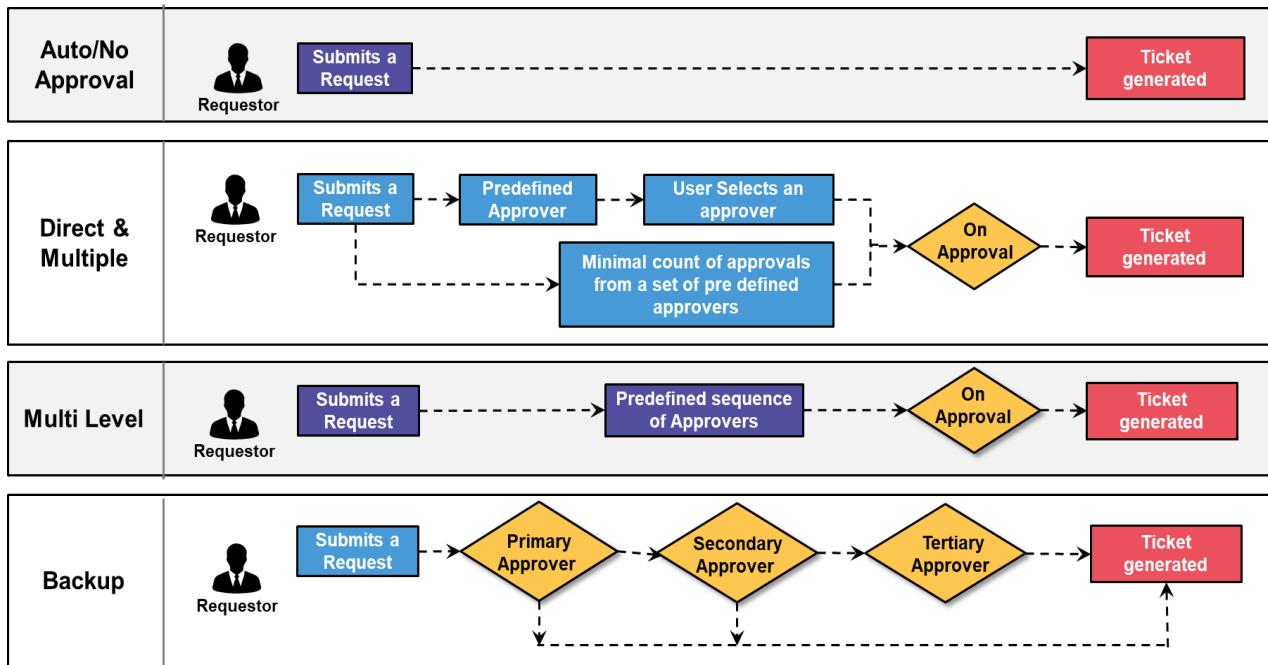
- Service desk agents are provided with their interface using which INC/SR can be created
- System allows INC/SR creation on assets
- There is a separate module for tracking security related incidents
- Organization Access Management (OAM) module allows INC/SR creation for all access related issues including On-boarding and Terminations.
- As an INC/SR is created, it goes through various rules that can be configured client wise. The full lifecycle of INC/SR is as shown below:



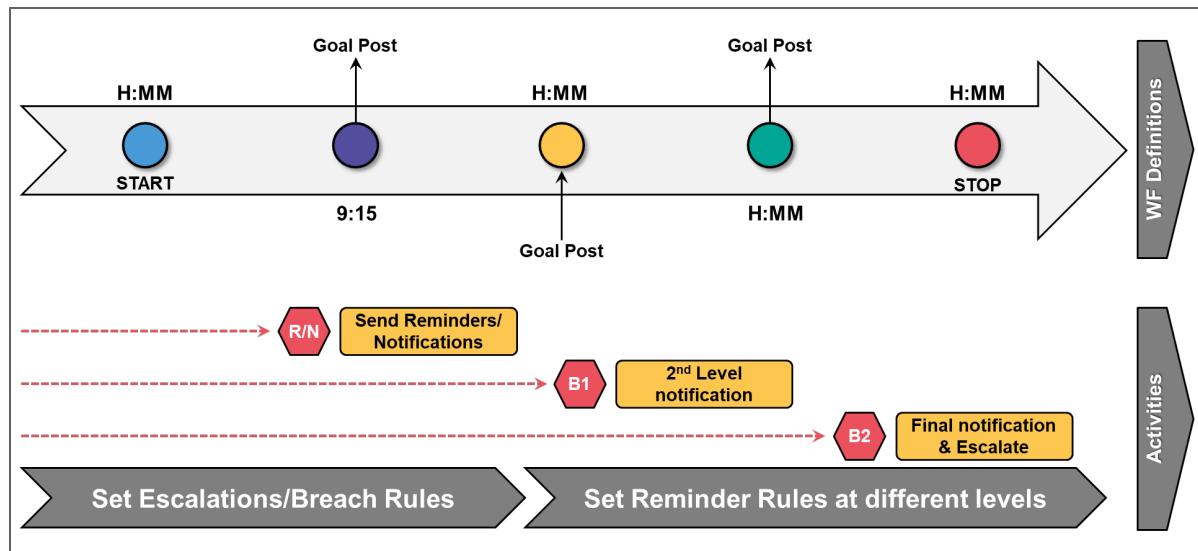
Work assignments configurable option as shown below:



Approvals option available are as shown below:



Service Level Management



Service Level Management is an independent module. An SLA can be defined from scratch and named. SLA can be attached to any process. This enables defining different SLA for different processes. This module is intertwined with Notifications and Alerts Component, Process Definition Module with Workflow Component, Holiday Calendar, Roles and Groups, Shift/Support/On Call.

The definitions include items such as:

- What happens when a person reports an incident or when an event fires
- How long can it age?
- What happens if it is not assigned within a stipulated time?
- Who gets notified, what happens if he does not acknowledge after assignment?
- How many reminders - will it be periodic before expiry? Or a fixed number of reminders? And the mechanism of reminder – desktop, Mobile, email or all three?
- How does the escalation happen? to whom – to an individual or a group?
- What happens when the escalated manager or group does not acknowledge?

Vendors

The vendors' module will provide LAUSD with complete visibility into their vendors and spending. Irrespective of what the vendor or type of service they provide, the solution will offer LAUSD a comprehensive view of their: assets, services, contracts, and spending.

Tagging of assets purchased or service requests to the corresponding vendor will enable LAUSD to better understand, evaluate and rate their vendors.

Vendors						
There are 6 Vendors. 0 items are available.						
<input type="text" value="Search Vendors"/> <input type="button" value="Columns"/> <input type="button" value="Export"/>						
Vendor Code	Vendor Name	Description	Asset Quantity	Service Count	Software Count	Actions
VNC-0023	Tremblay Group	Networked Multi-State Customer Loyalty	3	0	0	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
VNC-0025	Solzman Solutions	IT software and service providers	5	0	1	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
VNC-0024	Mitchell and Sons		6	0	1	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
VNC-0027	Mike Services Pvt.Ltd.		18	0	1	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
VNC-0026	Lockwood Technologies		4	1	1	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
VNC-0022	Gilbert Company Pvt. Ltd.		2	0	1	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Showing 1 to 6 of 6 entries

Figure 5: List of registered vendors

Invoices

Automated invoice management is important to track, overcome bottlenecks and prevent delays and errors in receiving or paying for goods and services. Our invoice module will enable asset managers to add, track, and manage invoices and payments related to their assets seamlessly. In addition to providing a holistic view of the invoices and payments, the module also offers the ability to view invoices and payments by their status, related user, related site, and related service ticket, thereby ensuring:

- Processing of payments within the time
- Regulating inventory
- Preventing delays in services and procurement of assets
- Better relationship with vendors
- Audit preparedness

The screenshot shows the 'Add Invoice' form. On the left, a sidebar lists 'Dashboard', 'Assets', 'Students', 'Staff', 'Software', 'Locations', 'Help Desk', 'Invoices' (which is selected and highlighted in blue), 'Settings', and 'Reports'. The main area has two tabs: 'Invoice Information' and 'Invoice Details'. Under 'Invoice Information', there are fields for 'Invoice No.' (with a note 'Leave empty to auto generate'), 'Invoice Date*', 'Ticket' (a dropdown menu with 'Select'), 'Due Amount*' (with a dollar sign icon), 'Related user' (a dropdown menu with 'Select'), and 'Type*' (a dropdown menu with 'Select'). Under 'Invoice Details', there are fields for 'Description' (with a note 'Description'), 'Due Date' (with a note 'Due Date'), 'Approved Date' (with a note 'Approved Date'), 'Approved By' (a dropdown menu with 'Select'), and 'Paid In Full Date' (with a note 'Paid In Full Date'). At the bottom right are 'Save' and 'Cancel' buttons.

Figure 6: Add Invoice

The screenshot shows the 'Add Payment' form. On the left, a sidebar lists 'Dashboard', 'Assets', 'Students', 'Staff', 'Software', 'Locations', 'Help Desk', 'Invoices' (selected), 'Settings', and 'Reports'. The main area has two tabs: 'Invoice' and 'Payment'. Under 'Invoice', there are fields for 'Invoice*' (a dropdown menu with 'Select'), 'Invoice Amount' (with a value '0.00'), 'Invoice Balance' (with a value '0.00'), and 'Related User' (a dropdown menu with 'Select'). Under 'Payment', there are fields for 'Payment Date*' (set to '06/20/2022'), 'Payment Amount*' (with a note 'Payment Amount'), 'Payment Status*' (a dropdown menu with 'Select'), 'Payment Type*' (a dropdown menu with 'Select'), and 'Payment Description' (a text input field). At the bottom right are 'Save' and 'Cancel' buttons.

Figure 7: Add Payment requests

The details related to invoices and payments can be manually filled in or our solution can be integrated with the existing ERP solution engaged by the school district to extract information on invoices and payments. To overcome the challenge of manually filling in this information we will leverage AI-based OCR for accurately extracting data from digital and scanned paper invoices.

Reporting & Dashboards Reporting

Reporting plays a vital role in enabling teams to quickly generate snapshots of their critical business areas. Our reporting module offers a simple and interactive interface that will help schools and school districts to accomplish their reporting tasks with ease. Our solution comes with a set of pre-configured reports that cover most of the school district's essential reporting requirements. It also offers the flexibility to customize the pre-configured reports to drill down on the data at a granular level of their choice.

The solution also provides asset managers an option to build cross-functional custom reports without even constructing a single query. This feature provides a step-by-step approach to building a report from the data stored in transactional databases, however, our “Low-to no-code” approach makes it ideal even for non-technical and inexperienced users.

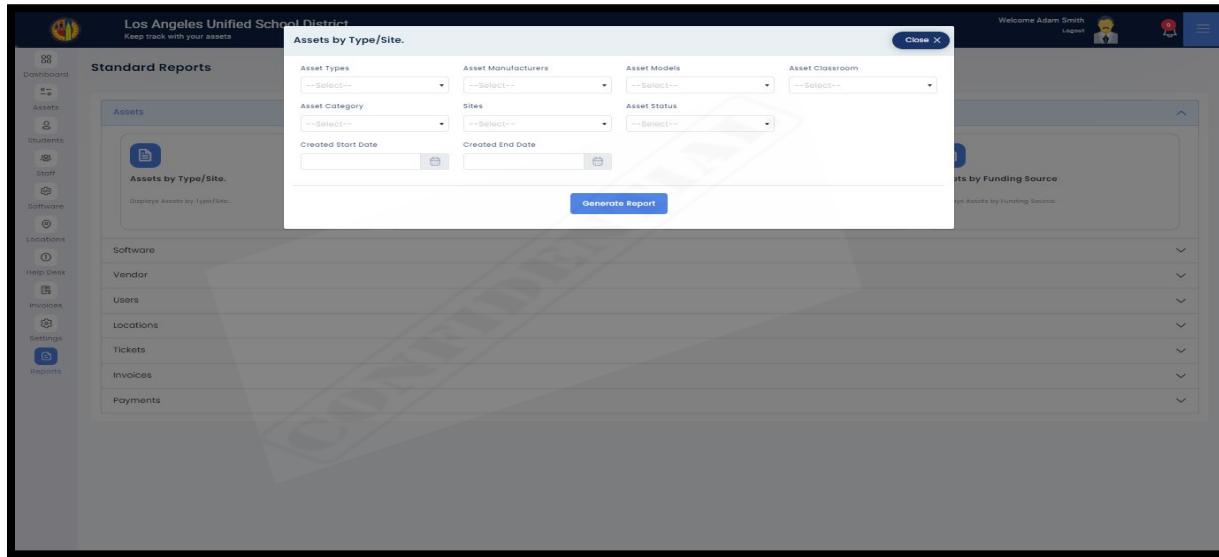
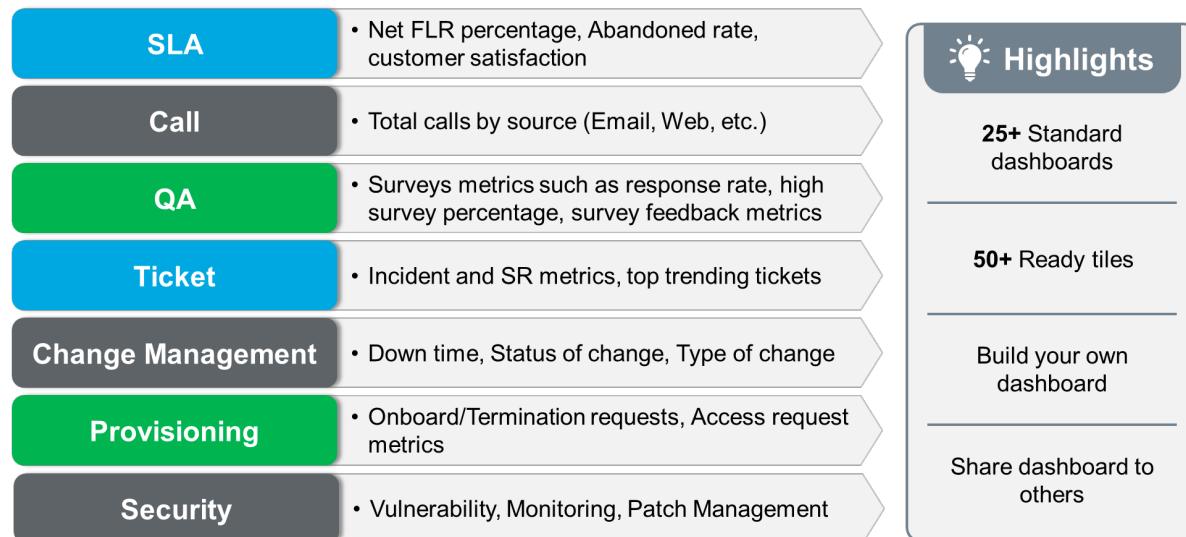


Figure 8: Reporting module with preconfigured reports and option to create custom reports

Dashboards

Hexalytics EAM contains an in-house Dashboard – “Metrics Board”, that allows users to design and view various service desk KPI’s and Metrics used in day-to-day operations. The dashboard is capable of reporting live, near to live streams of information and historical data. Its dynamic process helps to keep the dashboards and reports always in sync with latest information.



Using its Collaborate and Share features, users can seamlessly share their insights across BUs, departments and within user groups and work at ease. The system notifies the shared

content via the in-built notification process and end users can save it to their own categories and make further modifications.

Standard Dashboard

“**Standard Dashboard**” are the pre-built dashboards that are view only and users will not be able to make any changes to these dashboards. Standard Dashboard will be a mix of both Charts and Data table.

Standard Dashboard includes: SLA view, Total Contacts, Service Request view, Incident view, All Surveys, Quality boards, Change Management boards, Identity Management boards, and other Metrics.

My Dashboard

“**My Dashboard**” will display the list of dashboards created by the user using “**Ready Tiles**” and / or “**Custom Tiles**”, with a drawing board, where the user can simply “**Drag and Drop**” the visualizations. Each report will be a tile on the drawing board.

Ready Tile

List of metric tiles in which each one is an individual pre-built widget. User can drag and drop each ready tile to the drawing board and the data will be populated based on the tile definition

Custom Tiles

It displays the list of metrics grouped under each category that includes, Calls, SLA and Tickets. Users can just drag and drop the custom tiles and form a dashboard.

Chart Types/ Chart Visualizations

There are predefined chart types available, user can drag and drop the Chart type from the Chart gallery.

The Chart gallery supports: Bar, Line, Pie, Horizontal Bar, Bubble and Data table

Edit Tiles

Multiple tiles can be created and each tile is built with chart properties. User can just drag and move the tiles across the drawing board and adjust positions including maximising and minimizing the tile size.

Chart Properties

Properties menu will help the user to define Chart properties including Time period filter conditions, give Title for the report, label the x-axis and y-axis, change metrics colours and apply the changes to a tile.

Time period Filter conditions available: Month to Date, Previous Day, Previous Week, Previous Month, Past 13 Months

Save Dashboard

User can save the dashboard under a category and can view later. All saved dashboards will be displayed under the “**My dashboards**” section. Users can create own category or can save under predefined categories.

Share and Collaborate

Share functionality is supported for all the user defined dashboards. User will not be able to share any of the dashboards under the “**Standard Dashboard**”. Users can select one or more users and share the dashboard. The shared dashboard will be displayed as a notification to the recipient on the dashboard home page where the recipient can view and save the dashboard.

Export Capabilities & Zoom

Download option is available for each individual charts available in the Standard Dashboard which can be downloaded to .html easy to view and zoom. All the Data table wherever applicable can be exported.

Export Option Supported: Excel, Copy to Clipboard, PDF

Mouse hovering and scrolling over a graph will enable the zoom option. The graph zoom is possible to a minimal level up to “**one month**”.

Personalization

Dashboard themes can be personalized with the available color schemes, client logos, client names, etc.

Help Page

A guide to all the metrics with a simple definition is also provided for easy referral purpose.

Impersonation & Roles

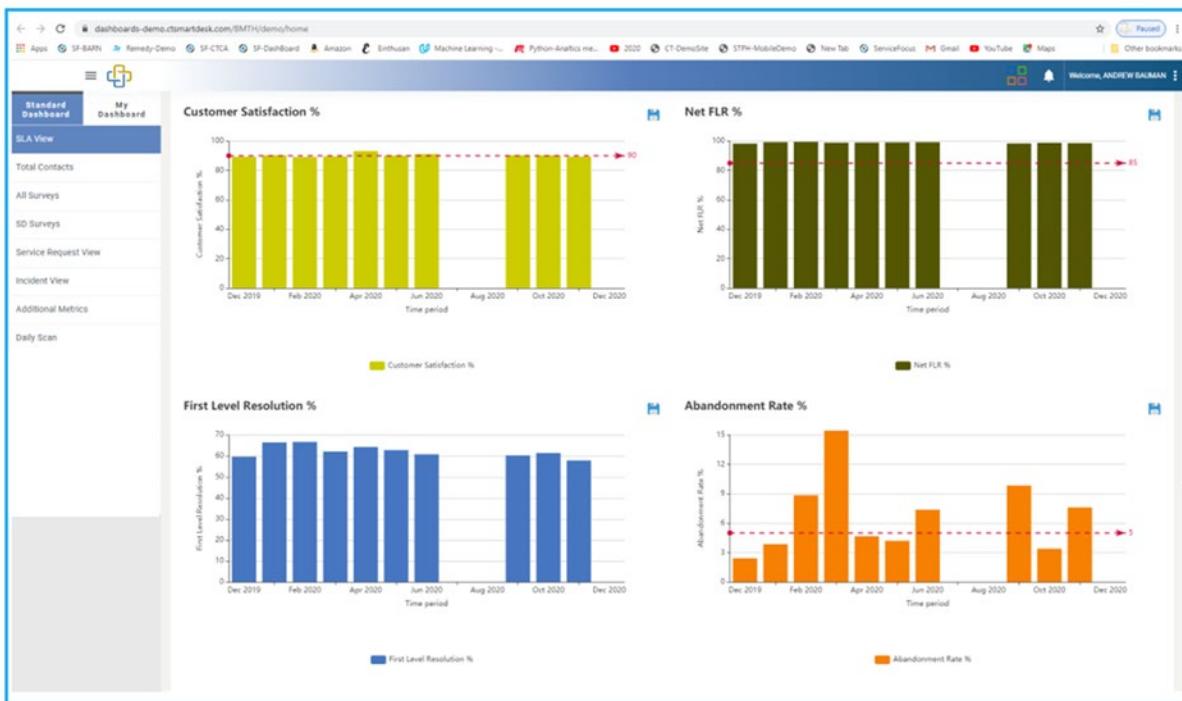
User roles can be defined such as Super Admin, Client User, etc. and based on the role the dashboard access can be managed. Super Admin will have the privilege to impersonate users/client.

There are two types of impersonation:

Impersonation at User Level: Users with the Super Admin Access will have the “Impersonate” option to impersonate a user and view the dashboards related to the users and as well the Standard dashboards

Impersonation at Client Level: Super Admin can select the list of Clients available and on clicking each Client the respective Standard dashboard will be loaded, however the My Dashboard will still load the dashboards created by the logged in user

A sample dashboard is shown below:



Ad-hoc Reporting

ReadyQ Application is used for ad-hoc querying of the database and building highly customized reports that are downloadable in excel, pdf and csv or attach and email to users of vested interest.

ReadyQ comes with a set of Canned Queries that reports on various metrics available in Service Desk and custom queries that user has to construct the query using applicable filters. For Advanced users, the application hosts a series of complex grouping, joins and other analytical functions that can be applied run time.

The components of ReadyQ are highly configurable giving the users the added advantage to add or remove entities, conditions etc. Default configuration involves Problem Ticket (PT), Service Request (SR), Service Request Task (SRT) and Change Requests (CR).

View Reports

All the canned and custom queries will be grouped under the categories like SLA, Ticket, etc. Clicking on each query user can view the resultant data set on the right pane with options to search against the data, export to excel or CSV. Pagination and sorting by default will be available for all data grids.

Create Reports

The query board allows users to create custom queries. The section involved in the Custom query screen includes, selecting entities and attributes, joining them, defining selection criteria using filters and doing an aggregation.

User can save custom reports under a pre-defined set of categories like SLA, Ticket, Predefined Queries, etc.

Edit Reports

User can easily edit the custom queries and define or alter the existing queries with just few clicks. The edited queries can be updated or saved as new query under a defined category.

Preview Reports

Preview Reports before save which enables the user to construct error less reports and save time. Preview also supports export options, search by fields, sorting, etc.

Email and Download Reports

Users can collaborate their work with other intended users using the email option to attach the reports in the desired format and dispatch it. They can also download to their local machines and use it for their day-to-day operations and meetings.

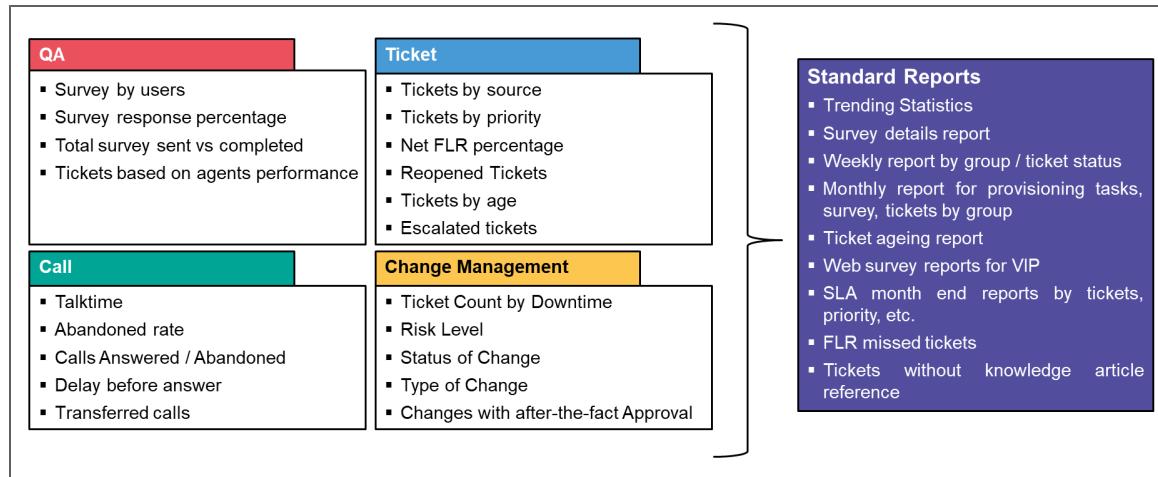
Sample Data Extracts are as shown below:

The screenshot shows a web-based reporting interface for Hexalytics EAM. The left sidebar has a navigation menu with sections like SLA, Ticket, ChangeRequest, and SoftwareAssets. Under SLA, there are sub-sections for Canned and Custom, with 'Missed SLA INC' selected. The main content area is titled 'Missed SLA INC' and displays a table with 25 entries. The columns are: TicketNumber, CreatedTime, Status, Priority, Assigned_Group, Assigned_Individual, and Summary. The table lists various tickets with details such as creation date/time, status (Assigned), priority (Standard), assigned group (e.g., CTS-RES CTR-1ST LEVEL), assigned individual (e.g., HELP DESK TRIAGE), and a summary note (e.g., Airstrip Mobile App request for SF-). At the bottom of the table, it says 'Showing 1 to 25 of 704 entries'. The bottom right corner shows a navigation bar with buttons for Previous, Next, and page numbers 1, 2, 3, 4, 5, 29.

TicketNumber	CreatedTime	Status	Priority	Assigned_Group	Assigned_Individual	Summary
PT-000015573721	2020-07-23 09:33:08	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Airstrip Mobile App request for SF-
PT-000015573561	2020-06-25 00:27:22	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Airstrip Mobile App request for MI
PT-000015573560	2020-06-25 00:05:16	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Ascom Nurse Alert (CTMU) requ
PT-000015573132	2020-05-29 10:13:43	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Ascom Nurse Alert (CTMU) requ
PT-000015573131	2020-05-29 06:57:49	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Ascom Nurse Alert (CTMU) requ
PT-000015573130	2020-05-29 04:20:28	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Airstrip Mobile App request for KI
PT-000015573122	2020-05-27 06:07:35	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Airstrip Mobile App request for A
PT-000015573121	2020-05-27 05:59:40	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Ascom Nurse Alert (CTMU) requ
PT-000015573120	2020-05-27 05:03:34	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Airstrip Mobile App request for A
PT-000015572959	2020-05-19 13:24:26	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Mobile Heartbeat, Ascom, Airstrip
PT-000015572956	2020-05-18 12:22:02	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Mobile Heartbeat, Ascom, Airstrip
PT-000015572955	2020-05-18 11:32:15	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Mobile Heartbeat, Ascom, Airstrip
PT-000015572954	2020-05-18 10:13:11	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Mobile Heartbeat, Ascom, Airstrip
PT-000015572953	2020-05-18 10:09:32	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Mobile Heartbeat, Ascom, Airstrip
PT-000015572952	2020-05-18 09:58:05	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Mobile Heartbeat, Ascom, Airstrip
PT-000015572953	2020-05-15 03:01:47	Assigned	Standard	BMTH-PAYROLL	TEST PAUL	Badge Does Not Work
PT-000015572922	2020-05-14 15:21:24	Assigned	High	BMTH-IMAGING APPLICATIONS-PACS	TEST PAUL	PACS Issue/Problem
PT-000015572012	2020-03-26 10:16:55	Assigned	Standard	BMTH-CSIRT		Test ticket Opened in QA
PT-000015570827	2020-02-28 09:01:12	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Epic Icon Missing
PT-000015570826	2020-02-28 08:54:37	Assigned	Standard	CTS-RES CTR-1ST LEVEL	HELP DESK TRIAGE	Epic Missing Patient
PT-000015570717	2020-02-14 09:24:50	Assigned	Standard	CTS-RES CTR-1ST LEVEL	ANNE HARM	test to see if KBA is viewable
PT-000016384903	2019-12-29 13:22:33	Assigned	High	BMTH-ENDPOINT ARCHITECTURE		Email - unable to log in on phone
PT-000016383679	2019-12-29 13:15:29	Acknowledged	High	BMTH-IMAGING APPLICATIONS-PACS	MICHELLE RUDZINSKI	PACS Issue/Problem
PT-000016384985	2019-12-29 08:19:38	Assigned	High	BMTH-ONECHART OR ANESTHESIA		EPIC - Unable to board patient
PT-000016384496	2019-12-29 07:52:39	Assigned	High	BMTH-POS PRINTER SUPPORT		Printer Jamming Issue

Apart from the Ad-hoc reporting tool Hexalytics EAM comes with lot of canned reports on metrics.

Few of the standard reports and metrics are shown below:



Custom Dashboards

The module offers customized, user-specific preconfigured dashboards with actionable data visualizations and narrations that will provide schools and school districts with a comprehensive view of their entire IT asset management operations.

For any day of interest, the calendar view will provide a quick snapshot of payments that are due, new service tickets, tickets that are due, assets checked in, and checked out. The calendar view will help asset manager to plan their day-to-day operations more efficiently.

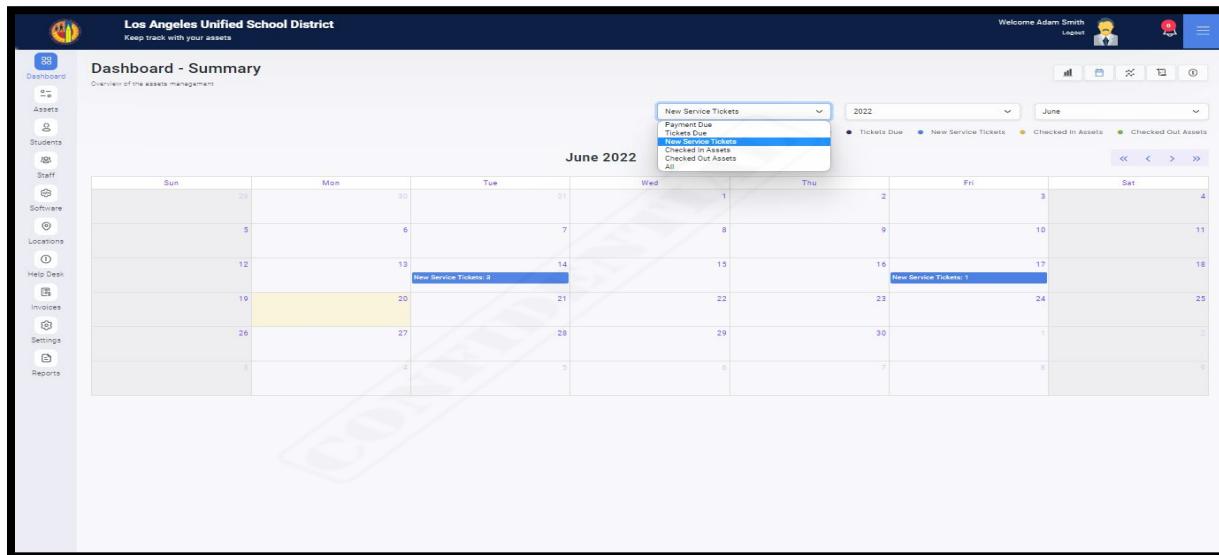


Figure 9: Calendar view providing the user an At-a-glance view of the month

The summary section presents an At-a-glance view of all the major KPIs on hardware assets, service tickets, and invoices. For the KPIs of interest, the view will also provide asset managers with a weekly trend summary and the ability to quickly analyze the KPI using predefined dimensions. The summary view is more operational and will help asset managers identify the areas that need their immediate attention. It also helps in understanding the recent trends and the dimensions influencing the KPIs.

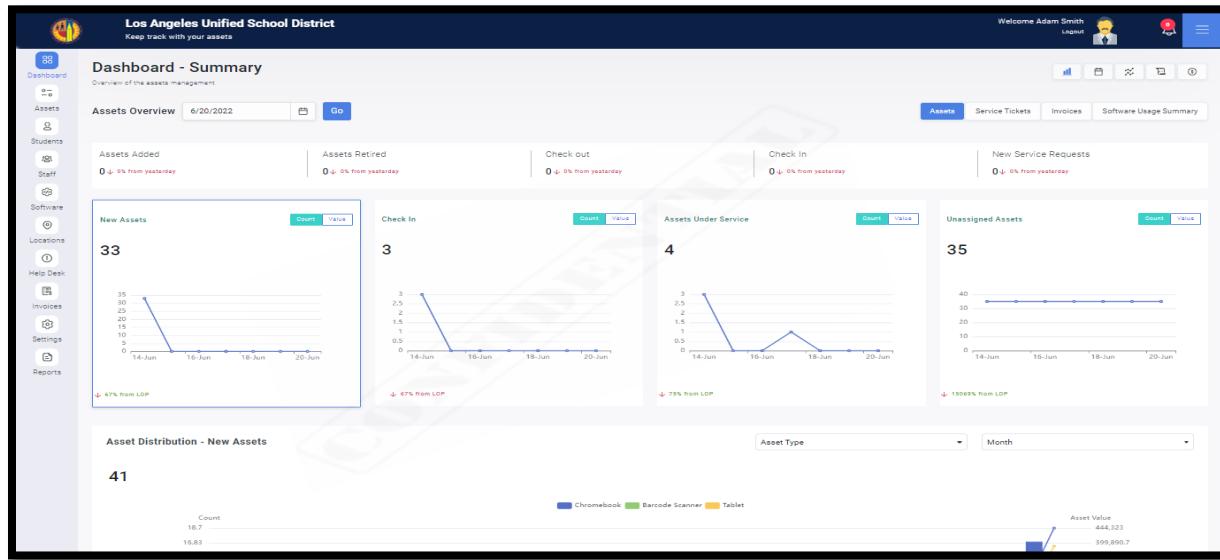


Figure 10: Summary View of the major KPIs for the chosen day

The analysis view is best suited for users who would like to dive deeper into the data. To facilitate the analysis, the view offers a wide range of filters to slice and dice the data. By leveraging cross-dimensional analysis and drill-down analysis, the user will be able to go into the details of key indicators to identify any areas of concern and their potential root cause.

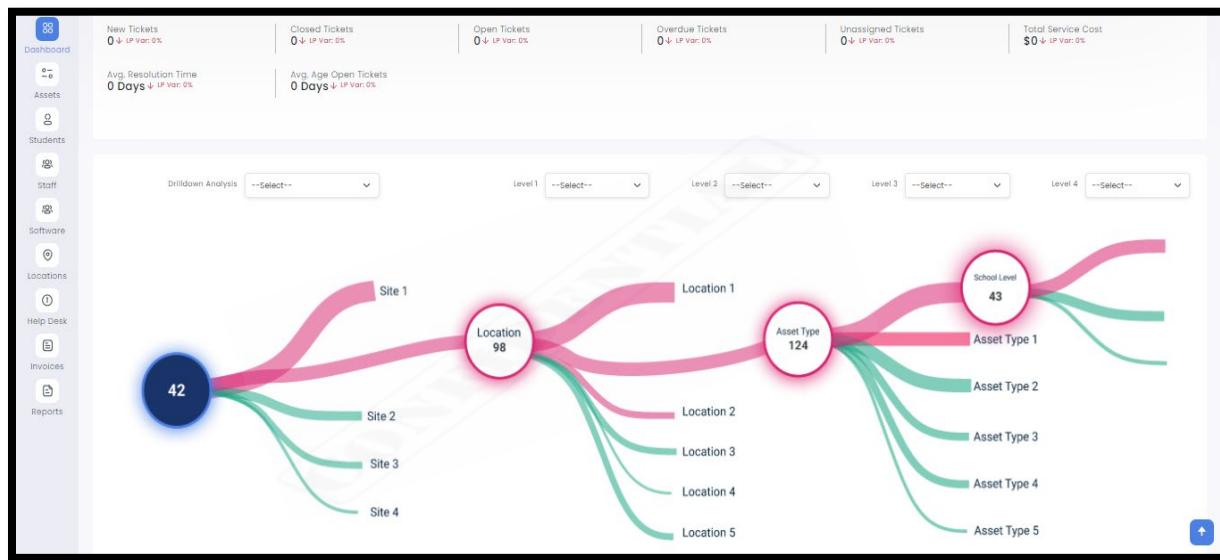


Figure 11: Drilldown analysis to deep dive into the data

The geo-spatial view offers real-time insights into the location, condition, and performance of the distributed assets. The geo-spatial analysis also provides additional layers that will enable asset managers to quickly plot and identify Schools/Sites and Students of interest.

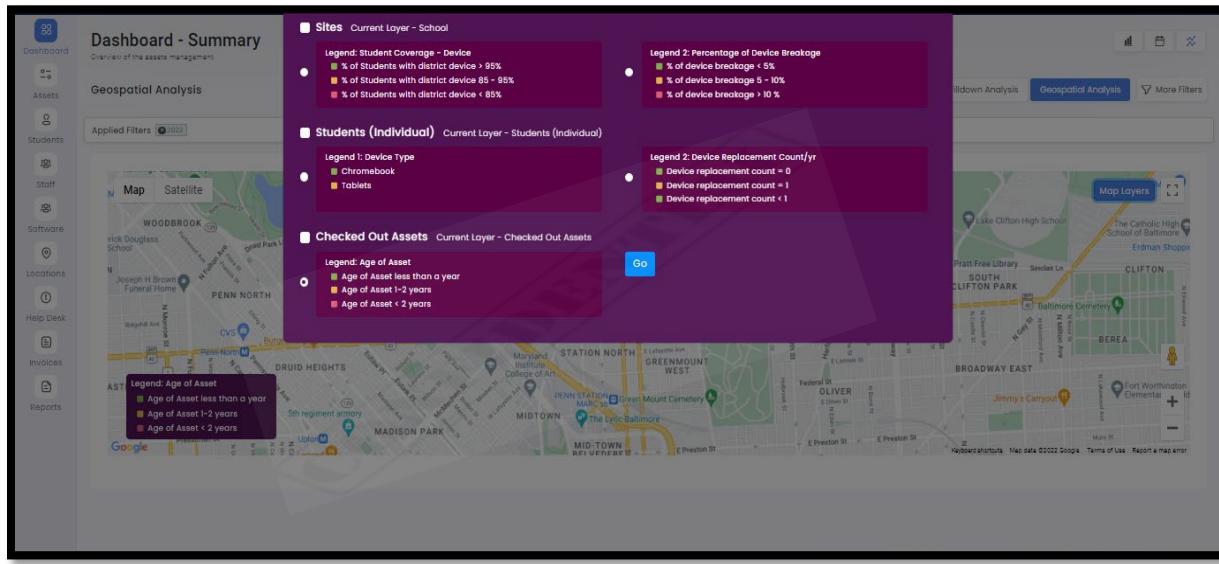


Figure 12: Geospatial representation of distributed assets

The Financial section within the dashboard helps the school districts map their spending against their budget and helps them with future budget forecasts.

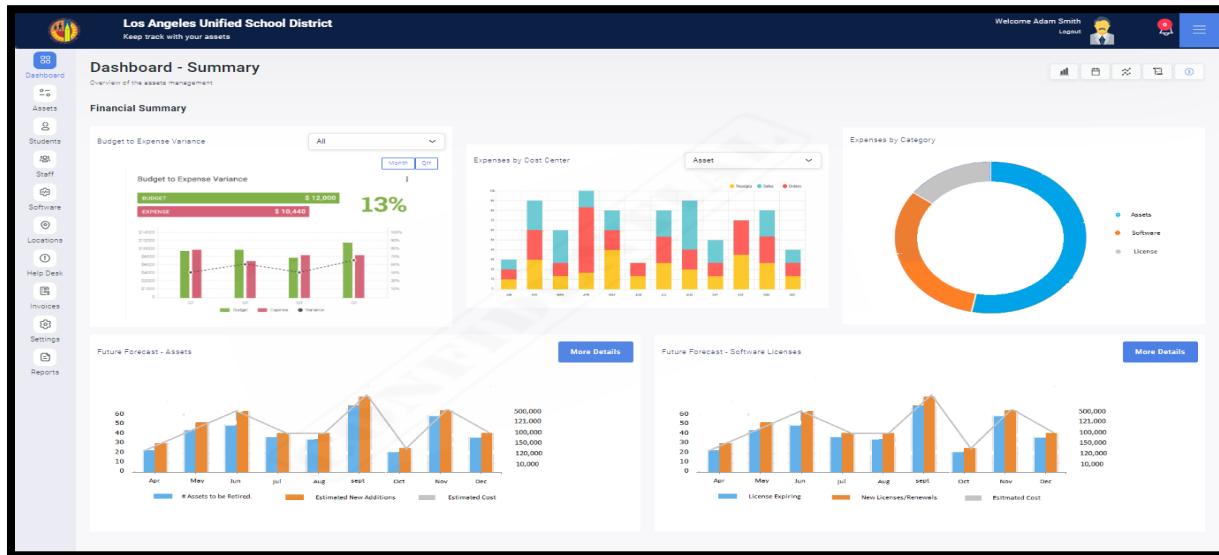


Figure 13: Financial summary comparing the budget vs expenses

Alerts

The alert feature will provide periodic notifications to users, thereby enabling them to closely monitor and track all activities related to IT asset management operations. Depending upon the responsibilities of the user, the alerts can be customized to meet their specific role requirements.

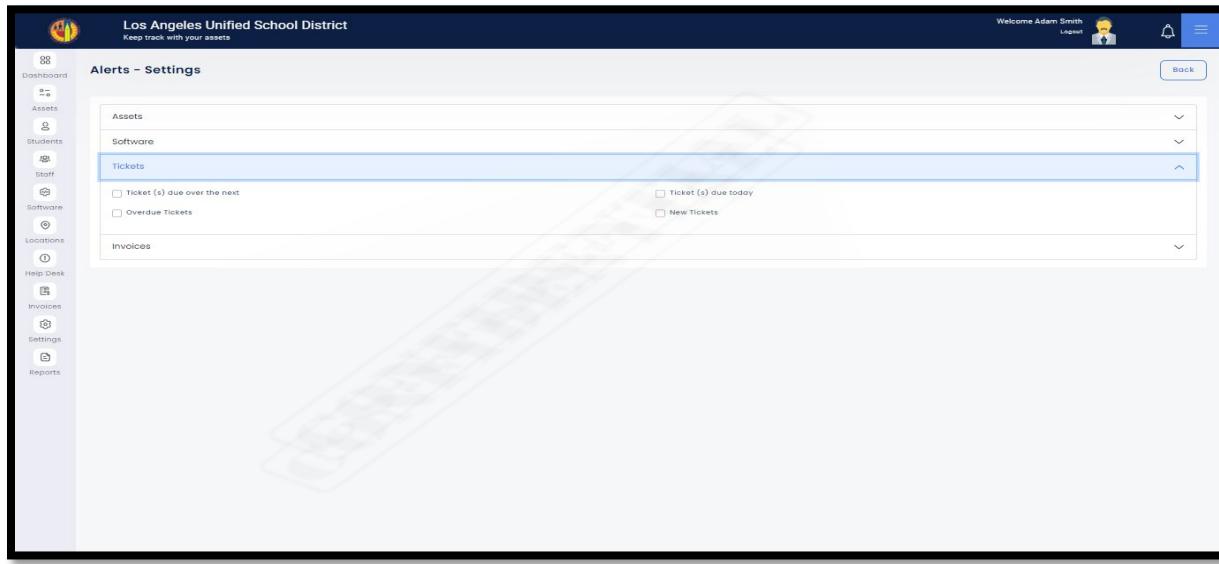


Figure 14: Alert settings

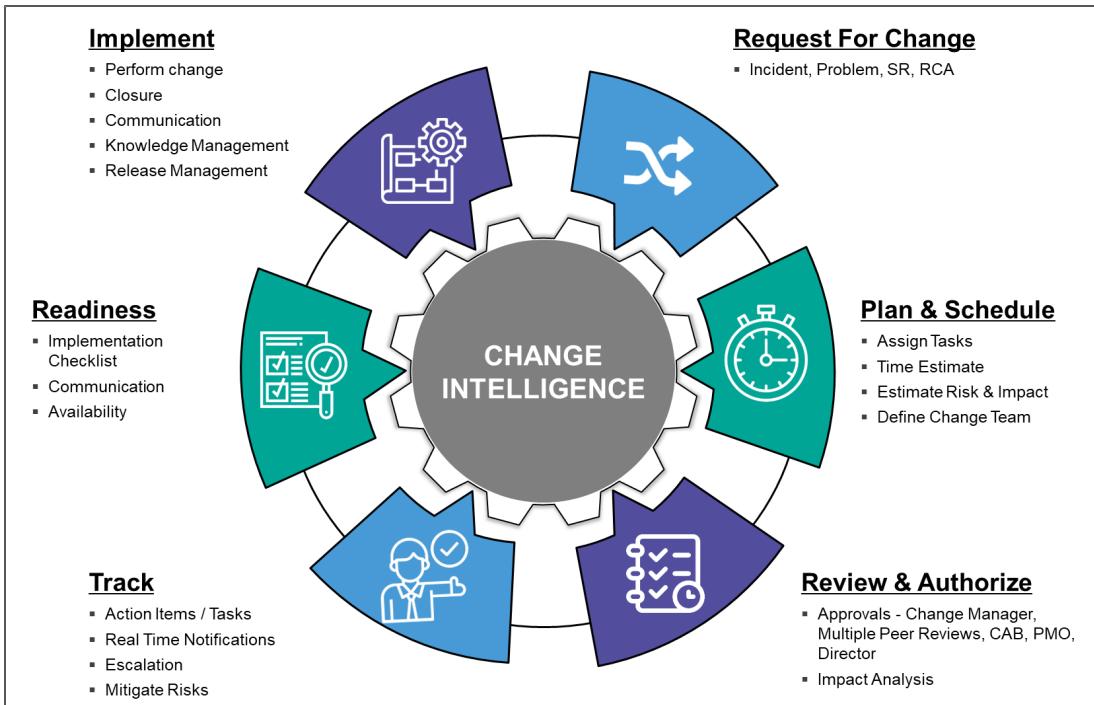
The alerts feature will also help schools and school districts to proactively keep track of granular level operational details such as:

- Based on students and staff login and usage details, identify students whose utilization of assets (hardware, and hot spot device) has been low
- Identify assets that need upgrade or replacement
- Breach of Monthly/Quarterly/ Annual expenses over their respective threshold
- Upcoming expiry of software licenses, among others

The notifications will be available in-app to the users over the web and mobile. In addition, users will also receive notifications over SMS and emails.

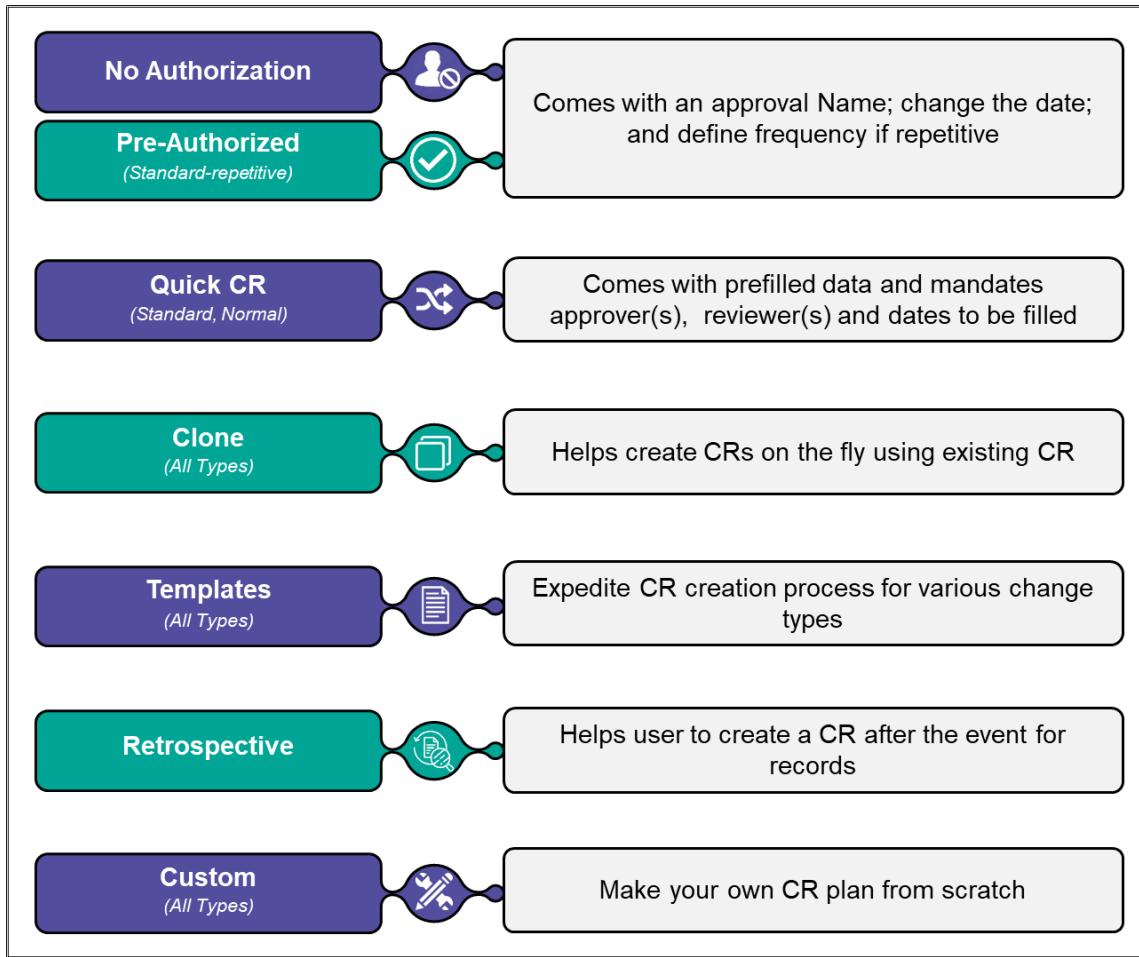
Change Management

Entire life cycle of the Change can be managed in Hexalytics EAM and the various functions are listed below in the diagram.



Request for Change (RFC): is a function where a change coordinator or administrator can initiate a CR. This can be done based on a Problem Ticket or by referring to a group of incidents or by looking into the Root Cause Analysis done. This process is automated where the system brings and shows a heat map of patterns, for administrator to look into and raise a change.

Plan & Schedule: The CM Module provides lot of templates from which the change coordinator can select based on the change type as shown. A CR can be planned from scratch where the Change Administrator has to manually create all the tasks and assign the stake holders. The templates also come with mandatory meeting events, coordination tasks, Back out, Implementation tasks, Communication tasks etc. There are Check list that can be enforced based on the category or platform or system.

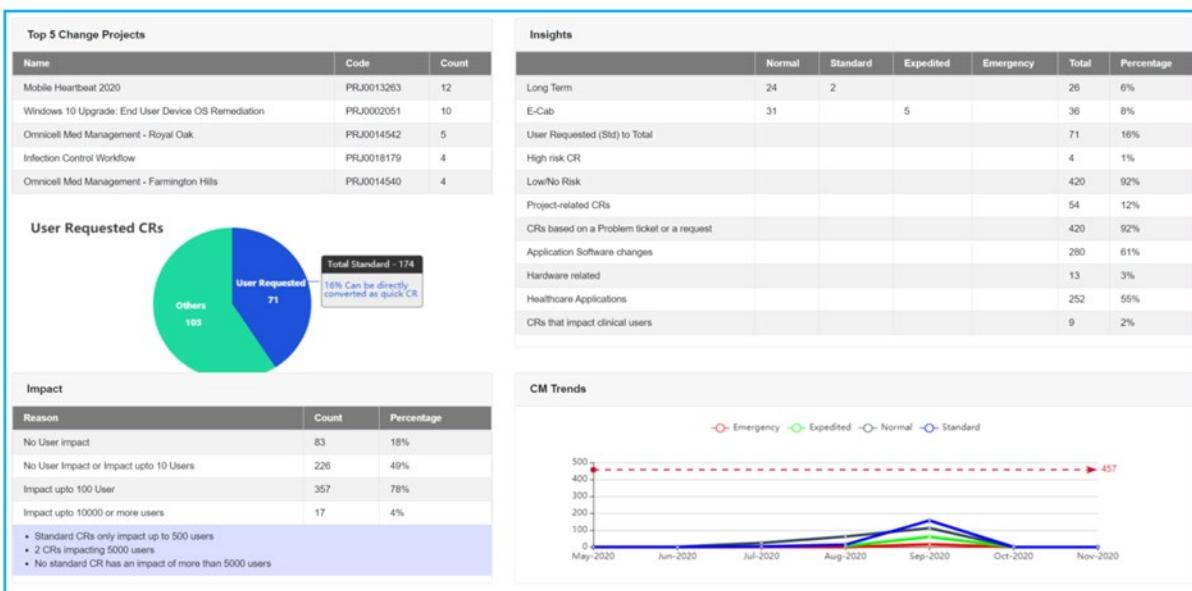
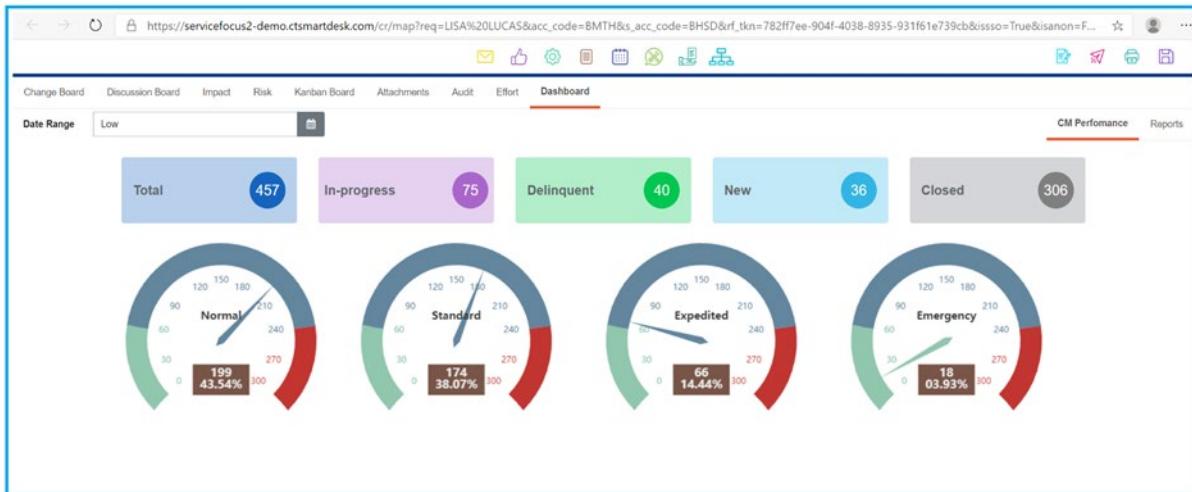


Review & Authorize: Reviewers and approvals can change from organization to organization or even between departments in an organization. They can be made mandatory or optional at a template level (based on Organization defined Process) and some of them can be allowed to be overridden by the Change Administrator. For instance, if it is a Non Project change a PMO approval may not be needed.

Track & Collaborate: This function allows all the stake holders to collaborate easily. There is a bulletin board, a Kanban Board with Swim Lanes to track various tasks assigned to individuals. These individuals can login and change status or do the same from the Mobile app or from links in the e-mail. There is a typical classic view/Screen based interface where the status of every change assigned to whom can be seen or can be seen in a graphical fashion on the change board with different color configuration showing the status.

Readiness & Implement: Once all the approvals are done, which are the milestones in the lifecycle the Change can be performed. The Change Calendar Module helps one to see all the changes that happening across the organization in the selected time frame and also lists the availability of personal to plan and schedule the change. This also helps in developing communication plan and sending out communication to all the affected communities.

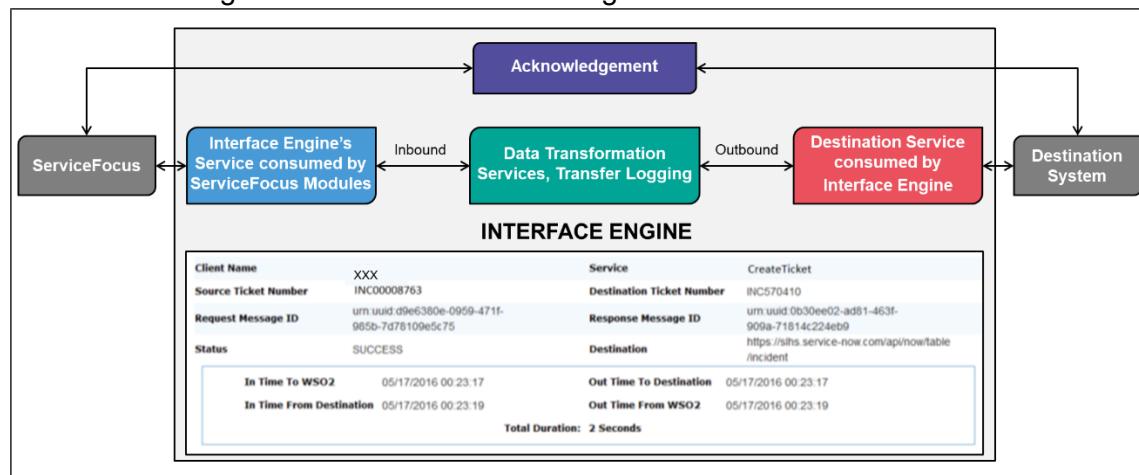
There are lot of OOB Dashboards available to draw various insights across the organization, or drill down to a CR level and see the effort consumed and the impacted items etc.



Integration

eConnector is one of the modules of Hexalytics EAM that helps in integrating with other applications either real-time or staggered. Some of the key features of this module are:

- Data mapping services
- Data transformation and translation services
- Transactional isolation
- Decoupled integration
- Works on a publisher-subscriber model
- Integration can be through REST, SOAP or an ETL based
- Device agnostic and centralized management

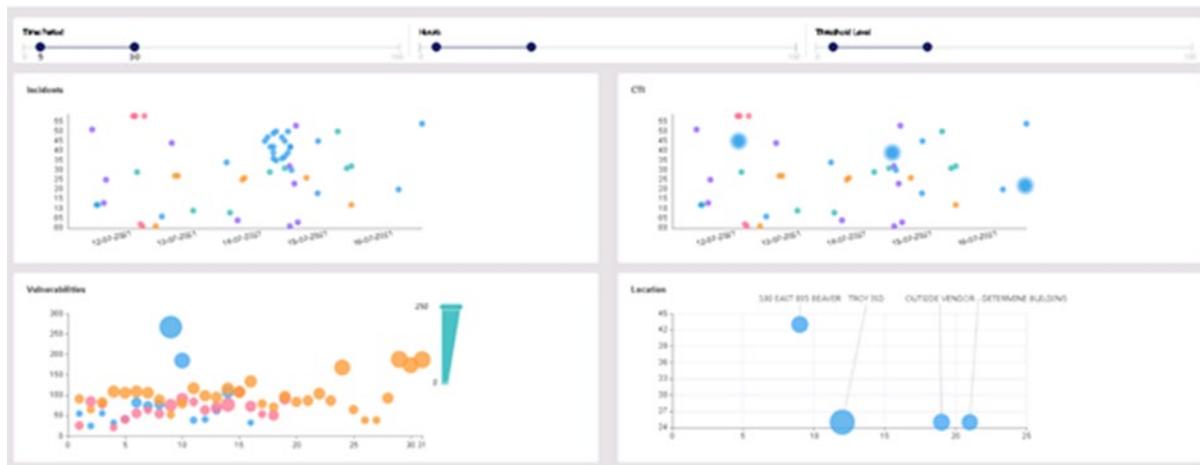


Using this module, other applications in an organization can be integrated to create tickets or request or vice-versa where the incident information can be used to feed into other systems.

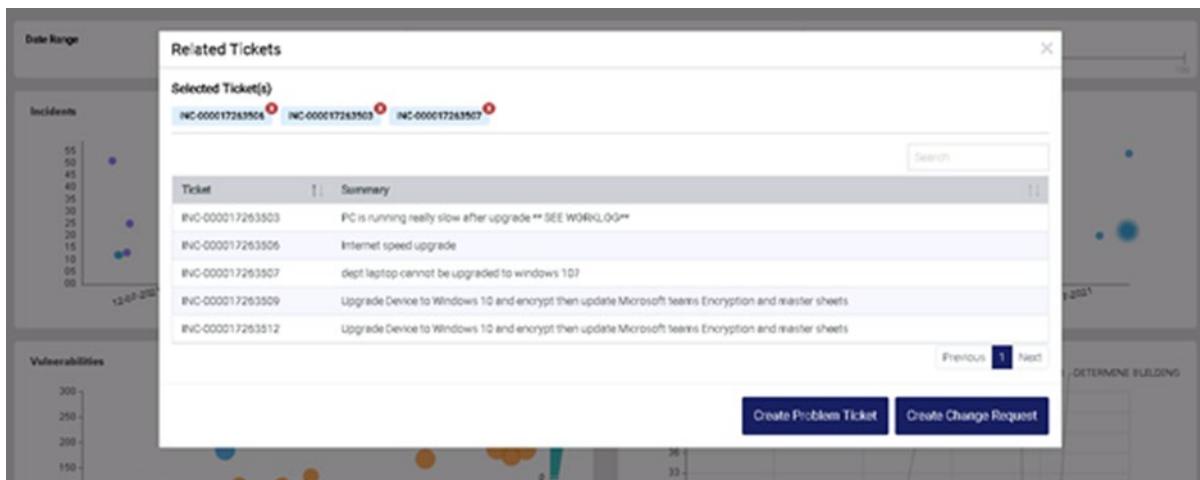
This can be used to integrate, real-time, with Active Directory (AD), HR systems, Project Management tools, etc. This can handle heavy transactional volume and every exchange is tracked by a transactional number and is auditable. There is a monitoring interface to handle failures and notify users.

Problem Management

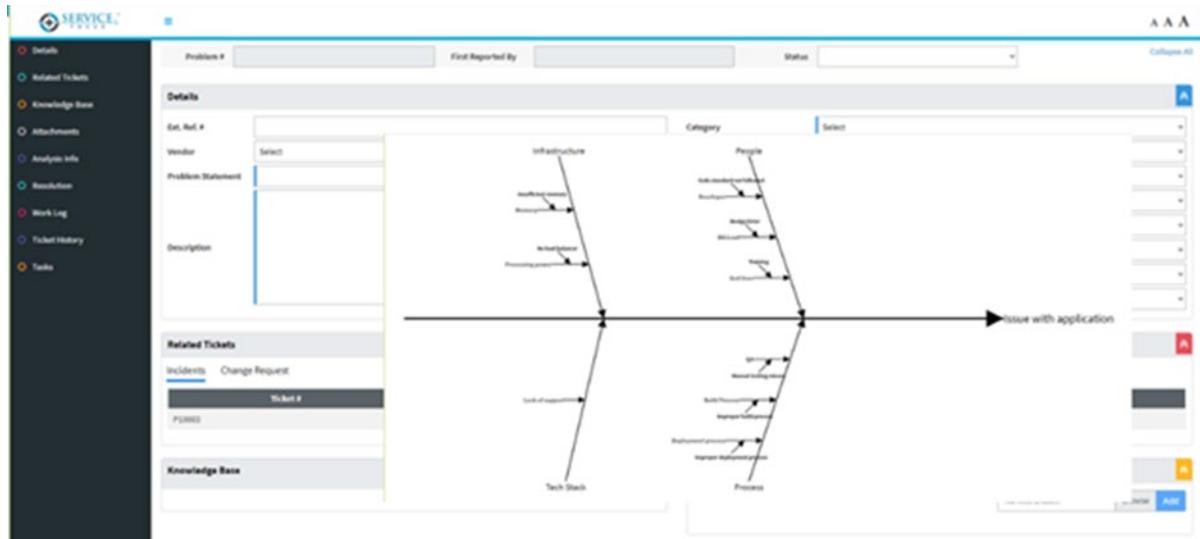
The problem management module allows creation of a problem ticket by analysing and referencing tickets raised for similar issues / requests. The interface allows users to visualize and help identify patterns for similar tickets helping them to zero-in on repetitive incidents for which root-cause analysis (RCA) is to be done and corrective measures are to be taken.



On click of any of these patterns, the system brings all the associated incidents or service requests. The problem manager can go through the list of incidents and if it is not a false-positive, can create a problem ticket referencing all the incidents.



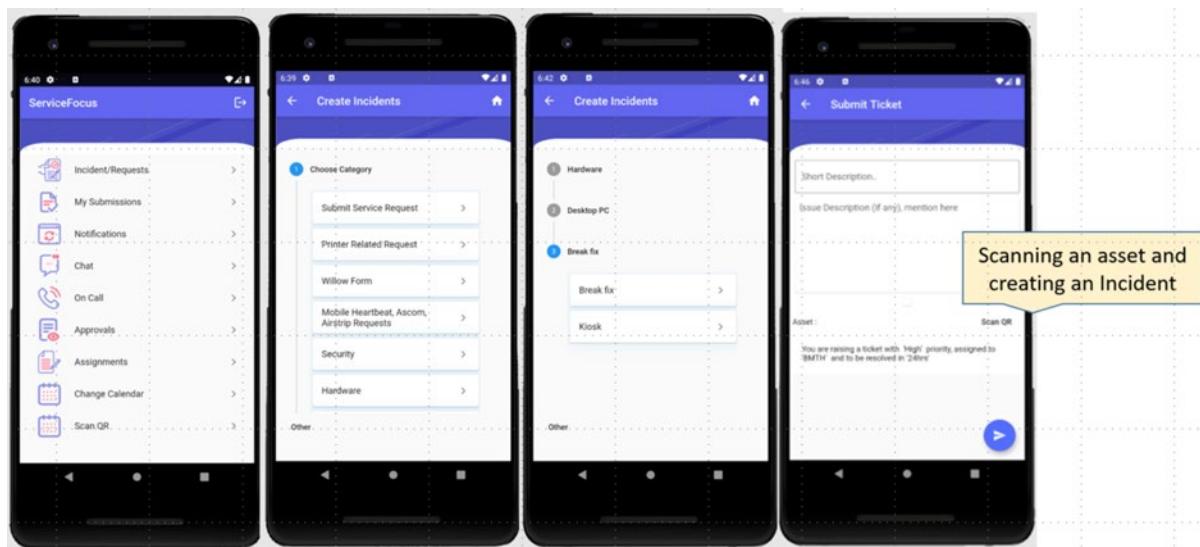
The system empowers users with tools such as the Fishbone diagram that helps in RCA. Few parameters come as part of the Out-of-the-box implementation (OOB) which can be customized based on HLB's preferences. The system also ensures the RCA and the referenced ticket relationship are maintained. The PT also has provisions to capture Workarounds and tasks to take corrective actions. CRs can also be referenced to fix PTs that require exhaustive changes.



Mobile Application

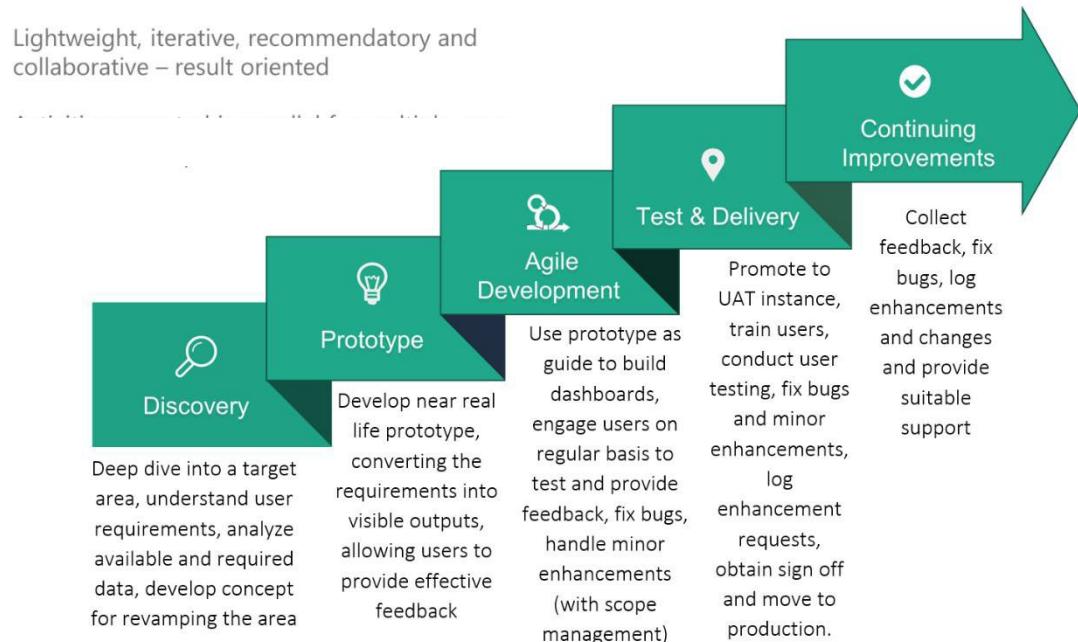
Hexalytics EAM provides a mobile application as both Android and iOS native clients. The mobile app leverages the device's hardware and software features to make ITSM easily accessible on the go. The notification feature in mobile is used to push notifications on approval tasks, assignments and other messages across different functionalities.

The ticket submission functionality allows scanning of the QR code labels in hardware and helps identify the device, its location and other information providing the support staff with all relevant information to successfully troubleshoot any issue or request pertaining to the system.



Solution Delivery Methodology

Innive has an extensive project management and delivery model, details of which are provided in Annexure A. We plan to adopt a modified version of the Agile Methodology, with phased delivery, collaborative agile methodology, to meet the scope items with the time lines indicated.



We plan to have weekly engagement with the business uses – Asset Management Users representing School Administration and Community of Schools, and the Executive Team – to gather requirements and keep them posted with the progress of the deliverables. Aligned with the District project management requirements, we will also participate in the weekly/bi-weekly standing meetings with stakeholders and project management teams to provide updates and clarification and mitigate risks in a timely manner. Barath Ashokkumar, our point of contact for this deliverable, will coordinate the meetings and activities, along with our project managers and other leads.

We will use the target timelines as a guide and publish the actual timelines with delivery details once we have the opportunity to engage with the business users, analyze the source data and determine the requirements.

Sample Project Plan for a 8 Week Data Integration Delivery

Activity	Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Wk7	Wk8
Kickoff								
Business Analysis								
Data Analysis								
Data Design								
ETL								
Data Validation								
Testing								
Production Migration								

Sample Project Plan for a 12 Week Dashboard Delivery

Activity	Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Wk7	Wk8	Wk9	Wk10	Wk11	Wk12
Kickoff												
Business Analysis												
Data Analysis												
Data Design												
ETL												
KPI Generation												
UI Design												
UI Development												
Testing												
Production Migration												

We will publish specific plans for each task item as part of the kick-off process. Here is high-level work plan with key milestones dates:

Project Milestone	Target Date
Acquisition of Software, Licensing, and Managed Services	7/5/2022
Gather and Format Entitlement Data	8/5/2022
Plan Development – Complete Solution Design	9/16/2022
Implementation – Complete implementation per design and data migration from existing asset management system	11/18/2022
Quality Assurance – Complete User Acceptance Testing	12/2/2022
Go-Live: Onboard IDMs onto the new system	12/16/2022
Project Close-Out	12/23/2022
Post Go-Live Support	3/31/2023

Value Added Services

Innive has been providing similar solutions and services to various other school districts. As part of the engagement, especially as we understand the IT Hardware Asset & Inventory management requirements better, we will bring our K12 experts to validate and supplement the requirements with best practices. We will use our data architects and solution architects to incorporate the best design to integrate with the existing Student data, Employee data, Location data, Vendor asset data, MDM data, LTE service data, Historical data and other Datamart to ensure scalability, data security and performance. We have a unique practice to ensure highest levels of user experience, value and usability with the analytical solutions, and we will extend the UI/UX service to ensure that the proposed solution are well aligned with the existing solution and deliver the intended values.

Annexure – A

Innive Standard Project Management and Execution Methodology

PROJECT PLAN

Innive follows an iterative, modified agile based approach for project execution with iterative releases of reports and modules.

This approach follows the scrum methodology where there is a provision of continuous evaluation of the incremental product and its development. The approach also presents an opportunity for our customers to release reports to the stakeholders as when they are ready rather than wait till the end of project completion.

A representative illustration of the proposed Innive approach is illustrated below. The diagram depicts the high-level project stages and execution plan. Innive intends to review, detail and revise this jointly with our customer during the Project Initiation and Program setup phase.

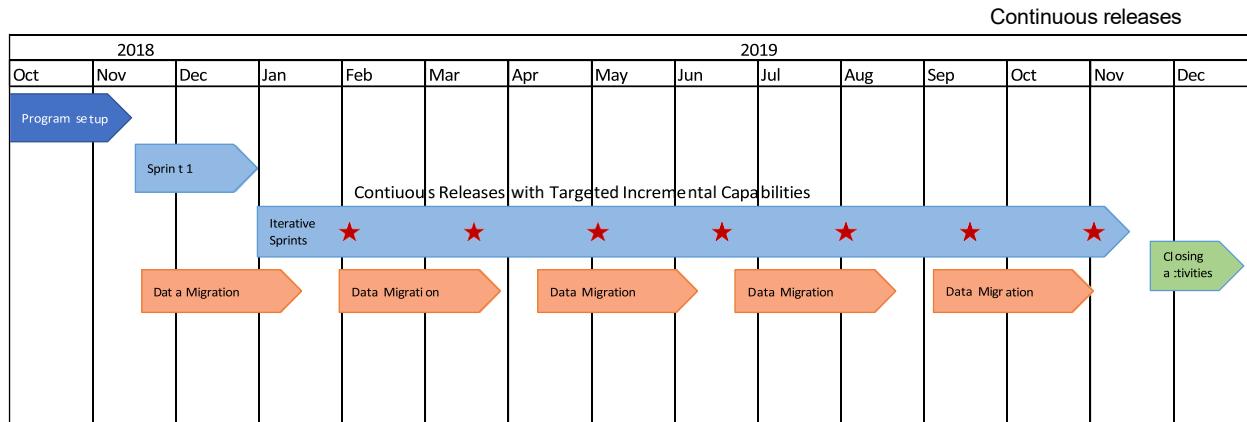


Figure 1. Proposed Innive Execution Approach

Program Setup

Key Activities:

1. Project Scope Document
2. Architecture Document
3. Release Plan
4. Product Backlog
5. Configuration Management
6. User Experience Detailing
7. Data Migration Plan
8. Communication and Escalation Plan
9. Risk Management
10. Development Environment Setup

Sprint Plans

The ‘Sprint 1’ will have the initial set up and the discovery phase for the initial modules. ‘Sprint 2-12’ shall have development followed by testing, for the user stories developed in the previous sprints. The unit testing shall be followed by release to the business users for User Acceptance testing and release of the module/report to production. The product backlog and sprint burn down charts shall be maintained for project monitoring.

Project Management and Meeting Cadence

Innive’s project management capabilities are the cornerstone of our overall project delivery approach – an approach specifically designed to help our project team satisfy our customers’ expectations, deliver useful results, and complete work efforts in accordance with cost and schedule budgets.

Our proven management experience allows the team to focus upon delivery of mission capabilities as management tools are in place to keep the project running smoothly. The team’s project management approach, described in the subsequent sections, demonstrates the team’s ability to successfully complete the project requirements in the proposed project delivery schedule. We offer an integrated project management approach, consisting of traditional project management and Agile techniques, and bring the right expertise, tools, and operations for successful project execution

Utilizing a modified Agile development approach, we will tailor our project management approach to accommodate multiple stages of development. Highlights of our project management approach include:

- Working collaboratively with Customer Product Owner from project initiation through project closure
- Capturing and reviewing activities and timeframes during daily scrum meetings
- Maintaining daily communications through scrum meetings to validate that the team is on the correct path
- Developing and maintaining a risk register with mitigation steps, probabilities of occurrence, impact ratings, and assigned owners
- Defining a clear process for identifying, escalating, and resolving issues
- Establishing a communications rhythm through reliable mechanisms for reporting progress/issues
- Establishing strict quality management procedures through product demonstrations and retrospectives
- We will leverage our established methodologies to add value while providing project management support throughout the lifecycle of the engagement.

We will provide a comprehensive schedule of project management, meeting cadence with project team, project sponsors and executives, business users and technical teams as part of the kick off activities. We will setup monthly meeting with executives and sponsors to provide high level status, get executive guidance and support.

We will setup meetings with business users, technical teams for project detailed tasks, both scheduled and also on demand, and details of them will be worked out and provided during the course of execution of the projects. Our scrum master on site will coordinate all the activities with customer project leads and executive management, and our leads on business and technical areas will coordinate meetings and activities with business users and technical teams.

Project Ceremonies

Backlog Refinement

Frequency: Once in a Sprint

Participants: Product owner from Customer, Innive scrum master, Business Analyst and other key team members as required.

Objective: Refine and prioritize the product backlog for subsequent Sprints

Sprint planning

Frequency: Start of the Sprint

Participants: Product owner from Customer, Innive team and other stakeholders as required

Objective: Set goals and outcomes for the upcoming Sprint

Daily Standup

Frequency: Everyday

Participants: Innive team

Objective: Evaluate daily progress and raise roadblocks if any

Sprint Retrospection

Frequency: End of Sprint

Participants: Innive team

Objective: Evaluate the performance of previous sprint and take learnings to the next sprint

Sprint Review

Frequency: End of Sprint

Participants: Product owner from Customer, Project stakeholders, Executives, Sponsors and Innive team.

Objective: Perform quick demos. Evaluate Sprint and Project progress.

Discovery Plan

Discovery phase is primarily focused on collecting and consolidating all requirements. As a result of the requirements discovery process and end of discovery phase, we will have sufficient understanding of the source systems, source system connectivity, reporting and hierarchy definitions, data granularity, report and visualization expectations, and metric calculation formulas. We will also build prototypes and visual mockups to fulfil the acceptance requirements and minimize potential rework during sprint development stages.

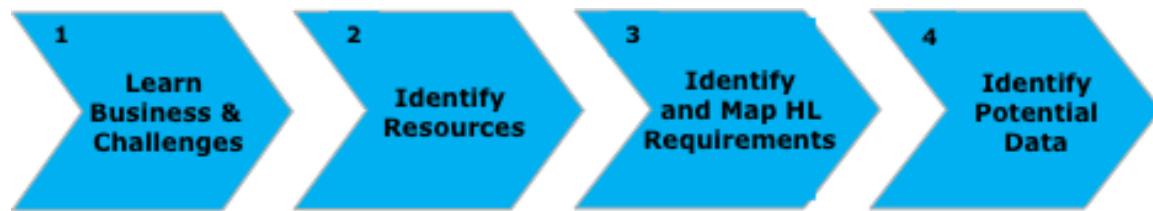
Discovery as provides opportunities for the delivery team to understand the unique needs of the specific customer. Innive doesn't believe in cookie cutter approach as every educational

organization is unique in structure and has unique challenges. Some of the deliverable of this phase are

- Final Roadmap
- High level Requirements (Product Backlog)
- Current System Architecture
- Data Availability Analysis

Innive Discovery Methodology

Innive Discovery Methodology has four distinct steps which assist us to identify the challenges upfront and design a bespoke roadmap for customized product implementation for specific customer.



Methodology Steps:

Learn Business and Challenges:

Based on our experience working with multiple state and local education organizations, we understand that every organization is unique. In this step we get a sense of the organization - no of school districts, no of students, separation of responsibility between school, districts and state education bodies and any other information that is unique to this organization.

We also look to previous attempts to develop or implement an intelligence system along with any previous approach and outcome. Finally, we share the statement of goals and success criteria with the team and confirm alignment with the project sponsor's expectations.

Identify Resources:

As part of the discovery phase, Innive assesses the resources available to support the project - technology, tools, systems, and people. In this step we identify the architecture of the existing systems along with the technology and tools used. After taking inventory of the tools, technology, data, and people, we consider if the team has sufficient resources to succeed on this project, or if additional resources are needed.

We evaluate the level of analytical sophistication within the organization and gaps that may exist related to tools, technology, and skills. This influences the transition roadmap the team designs and the kind of implementation the team chooses to pursue in subsequent phases.

Identify and Map High Level Requirements:

Framing the business question is critical to the success of implementation. We validate our understanding of key business questions that needs to be answered and gather high-level requirements. This is also the time to understand the expectations of the stakeholders.

Once we have the high-level requirements, we map them to our product capabilities or solution to identify gap in capability. This is useful in creating roadmap and custom capabilities development plan.

Identify Potential Data:

Based on the high-level requirement, the delivery team identifies the volume, type, and time span of the data needed to generate analysis. In most cases, the team will need the raw data to avoid introducing bias for the downstream analysis. A thorough analysis of the data situation will influence the kinds of tools and techniques to use in future phases of the lifecycle.

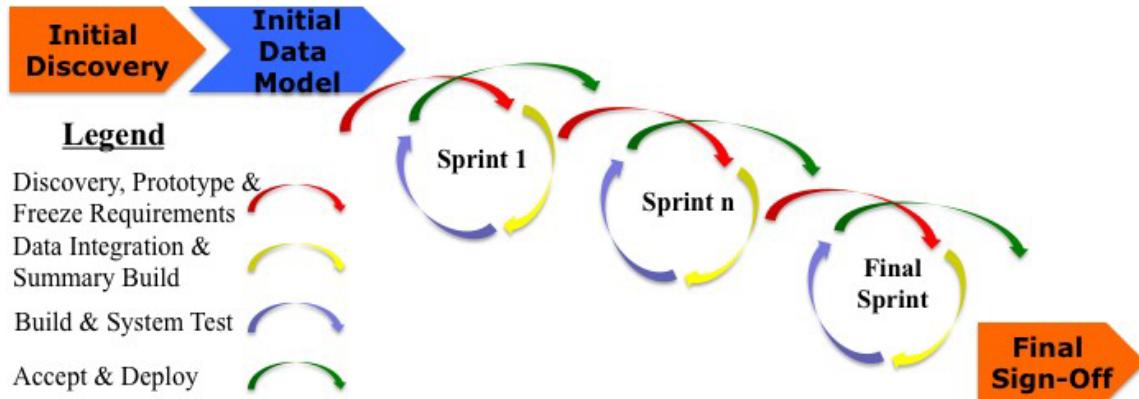
In addition, we perform data exploration in this phase to help the team determine the amount of data needed, such as the amount of historical data to pull from existing systems and the data structure. The scope of the data needed is finally validated with the domain experts on the project.

Development Plan

Our Development approach/process consists of distinct phases and a specific methodology, approach that includes a specific set of work products and artifacts created and completed by the project team as part of the overall application development and deployment. The inputs for the development plan come from multiple stages i.e., The Discovery phase provides the inputs to successfully implement K12 360. High-level requirements & roadmap provide the guidelines for the implementation phase. System architecture and Data Availability Analysis helps in speeding up the design and detailed requirements for data model and dashboard releases.

Innive Development Methodology

Innive's Methodology to provide the structured approach of Waterfall model during the data model phase and flexible Agile Methodology with more frequent user inputs during roll out of product modules and dashboards.



Our development plan includes a modified Agile development approach that **balances the needs of a traditional implementation and the benefits of Agile.**

- Once the solution approach is defined, we begin with a Configuration and/or Design phase using our pre-built and/prior custom developed solution that is focused on **prototype development** which promotes understanding of key design elements, concepts, and dependencies.
- The usage of prototypes familiarizes the client team with an Agile "build it" mindset
- Furthermore, we believe Requirements and Design, Enablement of pre-built content are performed in relation to the chosen technology, not in a vacuum where "anything is possible".
- Requirements cannot be gathered in a vacuum ignoring the design and build implications.** The prioritization of requirements may change based on the design alternatives presented. To that end Requirements are finalized in Design, so that users do not have to "commit" before the options are understood.

Our team will continuously refine the plan by incorporating the insights from Discovery phase with regards to organization analytics capability and number of releases.

Our Data Model development plan uses a linear approach and follows the process that includes:

- Create data ingestion plan by learning about customer data structures
- Perform ELT for initial, historical, and incremental
- Iterate Data conditioning to clean, normalize and identify keep/discard
- Test and Customer validate the test results

Agile Sprints for Development:

During Development stages, the team selects user stories from the high level requirements or the Product Backlog and packages the development of those user stories into a sprint. The number of user stories selected for any given sprint approximately equals the amount of work the team can accomplish reasonably during the timeframe allocated to the sprint.

The project is broken down into 6 -8 week sprints. For each sprint the following planning activities are performed:

- Identify the backlog items to be delivered for that particular sprint
- Estimate the amount of work required to deliver each of the backlog items
- Consider dependencies, identify the most important items, and reorder list based on priorities
- Conduct task-level planning, determine how much work can be accomplished during the sprint and commit
- Identify the acceptance criteria for the sprint

During development, daily scrum meetings are held to determine what activities each team member completed, which activities will be worked on that day, and what problems or roadblocks have been encountered.

The Scrum Master is in charge of removing those roadblocks and keeping the team on cadence for delivering the user stories in that sprint. Business analyst(s) owns the user story, present to quickly answer questions, make decisions, or to bring in business users and subject matter experts and communicate the team's progress to other user communities as required.

Our Core Development plan activities includes:

- Freeze Design: The Business Analyst will create user stories and detailed designs and socialize the detailed requirements with business users to freeze the design
- Build & Test: The Delivery Team begins the development process, working to deliver the capabilities agreed upon from Sprint Planning process. The development team continuously work with the business analysts and testing team to ensure and validate the acceptance criteria as documented during requirements
- Accept & Deploy: The Business analyst will review the testing results with business user and subject matter experts. Acceptance is determined against the criteria identified during Sprint Planning. Users also test the product features to identify any bugs and enhancements. After user acceptance the release is deployed, and any remaining enhancements are added to high level requirements.

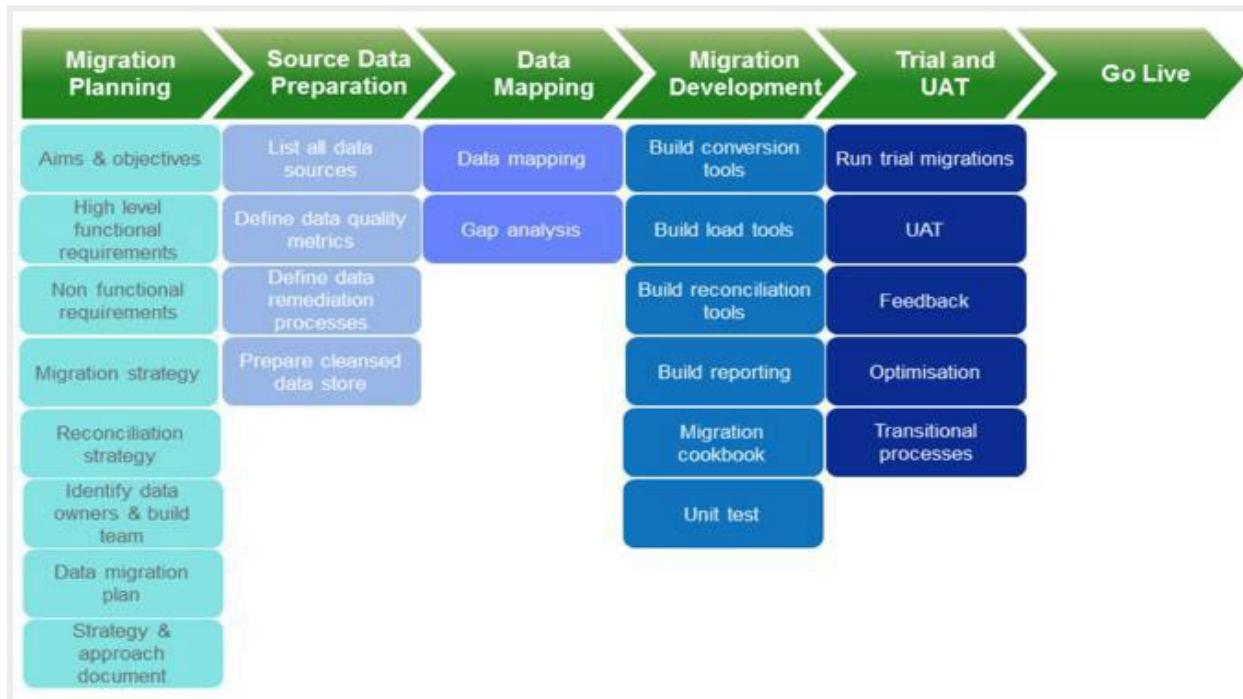
Data Migration Plan

The primary focus on the Data Migration is to identify and orchestrate a process for transferring the data from the current reporting to the newly developed reporting systems including the transformation of current data from the customer data sources to Data Lake storage where the data can be standardized and aggregated for ease of use, end-user consumption delivered as both on-premise and cloud-based solution. The Data Migration plan consists of optional steps such as data profiling, data cleansing, data validation and continuously support data quality assurance process based on the source data and the target reporting requirements.

Our Data Migration approach will define a process for putting together a detailed sprint plan consists of feasibility study, business requirement and impact analysis, complexity on data migration, fit-gap analysis and the overall scope, level of effort on the extension design to the Innive's Data Lake data models, Volume of historical data to be processed for both initial and

increment basis, developing data mapping and transformation routines, testing and data validation process.

The following represents some of the critical stages and/or steps involved in the data migration planning and execution.



Testing Plan

Innive follows a very structured and disciplined approach on testing applications of each implementation project. Our approach focuses on deliverables and agreed outputs for a given stage that are reviewed as part of project toll-gates. A key aspect to our methodology is to use an iterative, prototype approach that allows you to provide timely feedback that ultimately improves the efficiency and accuracy of the build phases.

Our testing approach establishes integrated quality processes at both the project and sprint levels in order to monitor quality. We use these procedures to identify and remediate product defects, make sure that services are performed in an accurate, complete, and timely fashion and affirm that work products comply with contract requirements and performance metrics. At the project level, we execute quality processes that focus on monitoring and reporting performance and quality across the entire project. For each sprint, we execute a quality process based on three fundamental pillars designed to elicit client input early and incorporate multiple reviews.

Testing – Overview and Ownership

The testing cycles to be conducted during the project are listed in the table to the right that delineates ownership responsibility. The testing phase is the portion of the project where ownership begins to transition from Innive to the customer. As part of the Build phase, our resources are responsible for unit testing to validate the built components are working as defined. System Testing kicks off the Testing Phase and is driven by Innive team. User Acceptance Testing (UAT) is intended to be led by the customer with our support.

Our Testing Plan consists of five testing cycles which must be executed prior to “go-live”. These cycles are as follows:

1. Unit Testing (Owner: Innive)
 - Unit testing will be conducted during the build phase to ensure that each element of the application is functioning as designed. The Design Document guides the unit testing process.
2. System Testing (Owner: Innive)
 - System testing will be conducted after the build phase is complete to ensure that all solution components are working together
3. Performance Testing (Owner: Innive)
 - Basic performance testing and tuning will occur to optimize performance
 - This testing will focus on a combination of the most common processes / use cases and the most intensive calculation
4. User Acceptance Testing (Owner: Customer)
 - User acceptance testing will be conducted by a select number of power users to ensure that various use case scenarios are supported by the delivered solution
5. Data Validation (Owner: Customer)
 - Data validation is one of the most critical activities in implementing an analytic system
 - The effort to validate data is often underestimated and requires dedicated resources to be completed effectively

Quality Planning

In alignment with the agile development methodology, we implement agile testing practices based on the Test Goal and Test Process Improvement (TPI) frameworks. These frameworks operate in parallel with each sprint release and achieve all activities included in the Quality Assurance and Quality Control phases. As a result, we provide a customer focused and value driven quality approach. Our quality plan is summarized in the figure below and is composed of six stages.



Figure 2. Our acceptance focused and value driven approach towards quality.

- **Stage 1, Acceptance test goal.** In partnership with the development team and key stakeholders, we establish qualitative and quantitative goals to be met by the product at the end of each release. This is defined as part of the project management activities within the first 2 weeks of the project.
- **Stage 2, Acceptance test approach.** Based on infrastructure and resource availability, we produce a customer-focused approach which outlines the roles and responsibilities of each of the agile team members with regards to quality assurance and control, change management aspects, and definition of entry and exit criteria. The approach also includes defect severity definition, method of reporting and escalation, as well as quality metrics deemed acceptable by the stakeholders and project team. For example, # of defect per Epic, # defect per iteration, Resolution cycle time.
- **Stage 3, Acceptance test design.** The acceptance test design stage is completed at each Sprint planning session. The goal is to build acceptance tests that are aligned with the validation of each user story, as well as overall Epics (aggregate of user stories) when applicable. This mechanism ensures that all user stories are “checked” by a supporting test prior to starting any development. This is the first quality check in place in our Agile approach. The second quality check is the establishment of a traceability matrix linking Stakeholder features to Epics and User stories, as well as planned relationship to defects.
- **Stage 4, Acceptance test setup.** At this stage, the agile team establishes and baseline the environment that will be used for quality control of our product. This includes setup of any infrastructure, web-services, and third party required. This phase also includes creation of test data as needed by the stories under development.

- **Stage 5, Acceptance test execution.** The acceptance test execution phase focuses on running quality control tests by executing the tests associated with the user stories and epics. During this stage, defects are reported, classified according to the schema agreed upon, and reports are produced to inform the stakeholders in term of features achieved by release, defect density, and achievement of the quality criteria leading to a production release.
- **Stage 6, Acceptance Assurance.** This stage focuses on ensuring that the product built and tested during each sprint is accepted by our stakeholders by first presenting a final walkthrough, next providing supporting documentation and training material, and finally providing training and help support to ensure full adoption of each release. As a result, the training and adoption is incremental rather than completed at the end of the project, facilitating overall organizational transition. During this phase, we conduct quality reviews on our established processes, and identify continuous improvement activity.

Quality Assurance

We apply planned, systematic quality activities to make certain that project results and sprint iterations comply with requirements and standards (e.g., project goals). Continuous improvement efforts are an important part of our quality assurance program. As established in our Quality Planning, each iteration will provide opportunities to mature our production and quality control processes, review process performance trends by using metrics as defined in stage 2 of our value focused approach. In addition, we conduct internal quality audit to ensure adherence to our statement of work, proposal approach. Quality assurance outputs include corrective action recommendations and improvement activities.

Quality Control

We monitor product and project results to validate compliance with requirements and quality standards and to eliminate causes of unsatisfactory performance. Quality control activities performed by our team provide prevention (e.g., keeping errors out of processes) and inspection (e.g., keeping errors out of the hands of the customer). Our testing approach outlined in the quality planning section is our primary vehicle to ensure systematic product quality control. Verification and validation activities include code validation, documentation verification, configuration management audits, and traceability review of artifacts. Quality control outputs include quality control inspection results, completed quality checklists, and documented lessons learned.

At the beginning of each sprint, the team works with the product owner to define Epics (major processes), User Stories (instances of a process), and associated acceptance criteria built as test cases. During each sprint, we conduct an incremental series of formally defined and scheduled reviews to facilitate development of work products that are clear, concise, and meet established expectations.

Our Test Plan incorporates our broader quality management practices described above and, at a minimum, defines the roles and responsibilities throughout the quality assurance process; defines the type of work to be performed and deliverables to be completed; establishes the surveillance and evaluation methods and procedures that will be employed; documents the performance metrics and acceptable performance levels; and describes mechanisms for documenting and reporting performance. We use the Test Plan procedures to identify and remediate product defects. We record all identified defects in a Defect Summary Report that is used to assign and document resolution responsibilities, schedule corrections, and monitor defect resolution progress.

Deliverables

- Test Plan
- Requirement Traceability Matrix
- Baseline functional test cases
- Execution summary result
- Defect summary report
- Performance Test Plan
- Performance Test Scripts
- Performance Test Metrics
- Report and Recommendations

System Documentation

We consider documentation critical at every stage and we have outlined some of the key deliverables at every stage of the above sections. As part of the staffing plan, we plan to have a dedicated offshore resource to focus only on documentation creation and maintenance

The leads in respective areas will be accountable to the customer for the documentation, but they will use the resources on the team to effectively meet the documentation requirements.

Staffing Plan

Our proposed team for this implementation consists of local resources with broader support from our national team delivering functional and technical thought leadership and managing application delivery through our offshore team for technical development, testing, and systems deployment.

The following represents the typical project team members that we bring onboard to handle the deliverables required under the project. We follow a staggered approach to onboard resources, to optimize the costs. The actual time required for each resource will be determined by the scope of the deliverables, timeline, complexity, and other factors.

Local Team

Engagement Lead	Responsible for overall client satisfaction with Grant Thornton services. Responsible for overall project direction, delivery, quality and ensuring timely completion of all deliverables.	As Needed;
Functional Lead	Responsible for the leading the discovery, defining business requirements and responsible for the solution delivery from a functional perspective.	Part Time or full time as needed
Technical Lead	Responsible for the solution delivery from a technical perspective that includes	Part Time or full time as needed

	technical design, architecture, and Others	
Project Manager	Responsible for monitoring project progress, maintaining overall responsibility for the project and ensuring timely completion of all deliverables.	Part Time or full time as needed
Business Analyst	Drive business discussions, collect and articulate requirement, document requirements, develop wireframe, coordinate with designer to convert to prototypes, socialize prototypes, obtain sign off of requirements and prototypes, train users, support UAT and provide all functional support for the project.	Part Time or full time as needed
Data Architect/ Integration Lead	Primarily responsible for understanding the current and future data needs, understand architecture and structure of current data, design architecture, and guide the execution team.	Part Time or full time as needed
Business Intelligence Lead	Primarily responsible for technically designing and managing delivery of all analytics, dashboards, portal etc.	Part Time or full time as needed
UI Designer	Help in producing high fidelity prototypes based on the wireframes and details provided by the business analysts	Part Time or full time as needed
ETL Developers and Elastic Specialists	Engineers for data integration to the data lake and for enriching the other layers of data within Innive K12 data layers	Part Time or full time as needed
BI Developers	Engineers for design and build of dashboard and analytics, support system and user testing, fix bugs etc.	Part Time or full time as needed
QA Testing	Focused resource on system integration and other testing, functional testing along with Business Analysts	Part Time or full time as needed
Application Support	A small team to take care of the bugs and enhancements related to completed sprint deliverables	Part Time or full time as needed

Training and Documentation	A change management specialist to focus on system and user documentation, to work with business and technical analysts and also client resources.	Part Time or full time as needed
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Most resources will be staffed from the current resources of Innive. All resources are already employed by Innive or its subsidiary companies, or available from our strategic partners on OEM basis to Innive.

Communication and Reporting

Innive will establish a common understanding, standardize our communication and reporting efforts, manage, and control the work effort with the stakeholders and the project team. Our Communication and Reporting will cover the following areas:

Project management plan

The project management plan includes and addresses the components of:

- Task planning
- Progress tracking
- Quality assurance
- Document management/version control
- Risk management,
- Change management
- Issue resolution

Governance and communications plan

The governance and communications plan are a vital tool in promoting the success of the project. This plan promotes communication of clear and timely messages with management representatives, stakeholders, team members and other interested parties throughout the work effort. It also defines escalation guidelines and organizational functions to clarify roles and responsibilities. Our approach to creating this plan includes developing an understanding of the stakeholder interests and communication preferences.

This plan would:

- equip customer leaders and key stakeholders with appropriate messages and information about the project,
- establish feedback channels across the enterprise, and
- promote timely decision-making.

RISK MANAGEMENT

An established risk management process that identifies and prioritizes areas of potential risk found in each phase of our work effort. The risk management focus develops and/or validates responses and strategies to mitigate these risks. Our intent is to reassess this ongoing process continually with input from various stakeholders. We include a summary of identified risks, identified at any

point in time, in the status reporting process. As appropriate, we will develop risk response plans and proactively discuss risk mitigation options with the leadership team.

ISSUE MANAGEMENT

Innive has adopted an issue management process that assists the project team in identifying, escalating, and resolving issues. Project issues are logged with information including issue definition, issue attributes (status, open date, and close date), issue ownership (opened by, assigned to, approved by, and closed by), issue estimates (cost and time), issue impact and issue resolution. A recap of open issues will be included within the status reports.

COMPREHENSIVE STATUS REPORTING

Consistent, timely reporting is vital to this project's success. That's why we'll work with the project manager to provide weekly or bi-weekly status reports that clearly articulate the project performance. Our approach to status reporting provides monitoring, tracking, and reporting related to all elements built into the project schedule.

During status reporting, we will verify the timeliness of activities, with particular emphasis on those activities that reside on the critical path of the project. In the case of any hindrance, we will describe the impact on the overall project plan and offer one or more alternative remediation approaches.

Status reporting that we have successfully employed in the past has included progress updates in major areas such as:

- Accomplishments for the period
- Schedule-at-a-glance
- Major upcoming events
- Risks and issues
- Action items

In addition, Innive will highlight the status via the *traffic light* analogy, using a *green light* to indicate the task is on time and not at risk; a *yellow light* to suggest some risk to the schedule or successful execution of the task; and a *red light* to flag tasks that are at risk.

PROJECT MANAGEMENT TECHNOLOGY

You will benefit from our internal repository of project management tools and templates. This repository enables us to share our lessons learned across projects and industries, making each succeeding project more efficient.

We also maintain a project repository for each project using Microsoft SharePoint or Google Drive (as recommended by the client) that will be accessible by the entire project team members. This repository is used to maintain project documentation, interim deliverables, interview notes, and project schedules. In addition, we maintain status reports, project issues and risks on the site, providing a one-stop-shop for project information to active project team members as well as management who are looking to understand project status and potential risks. Using these tools

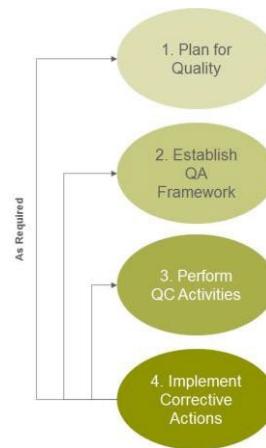
will enable the entire project members to be an active part of the project and increase transparency during the review and evaluation, ultimately increasing the efficiency of the project and increasing buy-in by the project managers from both parties who will need to use the recommended procedures and project management system.

PROJECT MANAGEMENT QUALITY ASSURANCE PROCESSES

As a company that specializes in quality assurance and independent validation and verification (IV&V) type activities, we are particularly diligent in incorporating quality management in each of our own projects. Our quality approach follows a progress, process-centric model to build quality into the project throughout its life cycle.

The following steps outline our iterative approach:

- **Planning for quality** — Focuses on thorough and consistent planning to ensure that achieving quality objectives is not left to chance:
- **Establishing the quality assurance framework** — Focuses on communicating the importance of and implementing appropriate methodologies, standards, procedures, and that guidelines are implemented, with full management support.
- **Performing quality control activities** — Focuses on consistently monitoring quality, identifying defects identified, and taking appropriate corrective actions.
- **Implementing corrective actions** — Focuses on resolving identified issues and reducing the potential for recurrence.



PROJECT PLAN

To help ensure the project is well planned and delivered on time and on budget, Innive utilizes the following project management techniques:

- Project Management Institute (“PMI”) standards built into our project management methodology, tools, and deliverables
- Use of Microsoft Project to plan and manage to the project schedule
- Key milestones to establish target completion dates of major project phases monitoring progress at interim stages of the project
- Weekly project status reports that summarize key activities performed for the week, key activities to be performed the following week, and major issues to resolve
- Periodic time reporting to track actual time and expenses against budget
- Proven templates (e.g., process flows, configuration blueprints, test scripts) to accelerate the development of key project deliverables

The following processes and documentation are incorporated into Innive’s project management approach:

Process Highlights	Overview	Benefits
Bi-Weekly or Weekly Status Reports and Meetings	Project Management reports accomplishments, issues, and upcoming activities on a weekly basis to the Project Management team via their Bi-Weekly Status Reports, as well as during a Core Team Status Meeting (note: the core team includes functional, technical, and PM team members)	Status is clearly communicated and documented; follow-ups with the functional and technical leads can be made as needed
Executive Updates	Executive updates are presented using a highly customizable Executive Dashboard which is produced at least monthly to provide a sound executive overview of the current health and status of the project	Status is clearly communicated and documented; follow-ups with the functional and technical leads can be made as needed
Issue Tracking	A very few engagements are without unique challenges, we will utilize customer preferred site for issue identification, documentation, tracking, reporting, and resolution; active issues are reviewed weekly	Improves issue transparency for management and all project team members
Work Plan Tracking	The Work plan details the comprehensive list of tasks required to complete the project, along with owners, due dates, and % complete; the work plan is kept up-to-date on a bi-weekly basis by project management	Provides the project team with a single source of information on current and upcoming tasks; identifies work slippage and allows project management to take appropriate action
Risk Management	Managing risk is a continuous process that focuses on identifying risk areas then planning to mitigate them or building contingencies to accommodate them. A Risk Tracking Log is used to capture and monitor risks	Risks are clearly documented, mitigation plans can be developed, and risks can be monitored at the project leadership level throughout the course of the project

DELIVERABLE TEMPLATES

Innive has standardized deliverable templates that are used for all phases of the project. These templates provide a jumpstart on project activities and allow these activities to be effectively documented.

Samples:

Project Status, Detailed Project Work Plan, Process Flows, Decision Memos, Technical Architecture, etc.

Innive has standard guidelines and operating processes around the engagement to ensure the successful completion of deliverables and the overall engagement – key highlights include:

- Program / Project Structure, including an organizational chart for the governance structure (a.k.a. Steering Committee) and a clear outline of roles and responsibilities as well as the decision matrix
- Issue Management Plan that addresses identification, management, communication, resolution, and proper escalation of issues
- Change Request Plan that addresses the management of changes in scope, deliverables, architecture, cost, or schedule of the project
- Project Document Repository to capture project deliverables as well as issues, change requests and other team correspondence
- Workflow Procedures that support proper team communication and status reporting
- Risk and Quality Management Plan to assess the compliance and quality of project deliverables to their original scope

Annexure – B

Additional Resumes of Solution Architects

AWS Lead Data Architect

Balaji Vivekanandhan

PROFESSIONAL SUMMARY

- In Total 17.5 years of IT, experience as an Enterprise Solution Architect in designing and building distributed systems provides end-to-end high-performance infrastructure at scale, architecture optimization, and post-implementation support. Strategic professional offering nearly 8 years of experience as AWS Cloud Architect. with expert knowledge of 5 years of AWS Data and Analytics experience. 9+ years worked as Oracle PeopleSoft Architect/DBA/Admin (Upgrade, Implementation, Maintenance, and Support).
- As an AWS Data Solution Architect, have sound knowledge in architecting, building, and implementing data lake solutions using AWS Data and Analytics services. Enabled the continuous incremental data pipeline on AWS using managed/serverless offerings in coordination with cross-functional teams.
- As Technical Lead Architect/SME/SPOC/DM/PM role primarily responsible for defining and driving the key initiatives, solution offerings, and evangelizing within clients and across the customer base on the cloud and data and analytics practice.
- Involved in Pre-Sales activities, prepared and present the RFBWO/RFB (Estimation/Schedule/SOW/HLD). After WO sign-off, lead and drive the project initiatives end-end and provide support till the warranty period.
- Develop Use Cases/POCs/Strategy/Roadmap for new cloud customers and review the solution implemented. Deployed Big Data applications using AWS Data and Analytics Tools such as Kinesis, IoT, S3, Glacier, DMS, Appflow, DynamoDb, Lambda, Glue, EMR with Apache Hudi, Athena, RedShift, RedShift Spectrum, Data Lake, Lake Formation, KMS.
- An effective communicator with excellent problem-solving, analytical, interpersonal, relationship building, decision-making & team management skills.

TECHNICAL PROFICIENCIES

- Languages: Python, Spark, CloudFormation/Terraform
- AWS Certified Machine Learning - Specialty AWS Certified Data and Analytics – Specialty AWS Certified Solution Architect - Professional AWS Certified Solution Architect – Associate
- AWS Data & Analytics Tools: Snowball Edge, DMS, Appflow, Kinesis, DynamoDB, Aurora DB, Lake Formation, Glue, EMR, Athena, Elasticsearch, Redshift RA3, Sagemaker and QuickSight
- Cloud Datawarehouse: Snowflake, Redshift RA3
- Business Strategic Tool: Wardley Map
- Data Governance: Collibra

CERTIFICATIONS & TRAINING

- AWS Certified Machine Learning – Specialty
- AWS Certified Data and Analytics – Specialty

- AWS Certified Solution Architect – Professional
- AWS Certified Solution Architect - Associate

EDUCATION

- Master of Studies: Information Technology and Management: Madurai Kamaraj University, Madurai, Tamil Nadu, 2004
- Bachelor of Science: Maths: The American College, Madurai, Tamil Nadu, 2001

RELEVANT EXPERIENCE

**HTC Global Services India Pvt., Ltd.,
India
AWS Lead Data Architect**

02/2021 – Present

- Design and implement data engineering, ingestion, and curation functions on AWS cloud using AWS native or custom programming.
- Perform detailed assessments of current state data platforms and create an appropriate transition path to AWS cloud as part of customer consultation and business proposals.
- Participate in client design workshops and provide trade-offs and recommendations toward building solutions.
- Responsible for defining and documenting architecture, capturing and documenting non-functional requirements, preparing estimates, and defining technical solutions to proposals (RFPs).
- Datawarehouse Modernization: Large data migration (386+ TB) from IBM DB2 LUW (Datawarehouse) to Redshift RA3.
- Migration involves historical and Incremental data pipelines.
- Automated the incremental data pipeline workflow using AWS Glue (Python Scripts) and schedule the process to load the parquet data into Redshift RA3. Developed Data Reconciliation Tool for Data Quality Check.
- Demonstrated ability to have successfully completed multiple, complex technical projects and created HLD/LLD and architecture of the solution, including class, sequence, and deployment infrastructure diagrams.
- Created Wardley Map (Business Strategic Topography) for Data and Analytics Landscape goes together with HLD/LLD
- Sound design/solution experience on serverless compute and DevOps CI/CD deployment tools/services on AWS Fargate/EKS,
- Code Pipeline, and containerization methodology.
- Take ownership of technical solutions from a design and architecture perspective for projects in the presales phase as well as ongoing projects.
- Work closely with the sales team and clients to understand their business, capture requirements, identify pain areas, propose an ideal solution, and win business.
- Collaborate with project leads and consultants and business unit leaders for all projects involving enterprise data and analytics
- Mentor other engineers in coding best practices and problem solving

While engaged at E On, Netherlands, from 05/2019 to 01/2021 as a Principal Consultant

- As an AWS Big Data Architect/Manager, work with key stakeholders to understand desired business and clinical outcomes and communicate impactful solutions leveraging the most relevant tools and technologies. Managing Offshore/Onshore Team of 40 members across different Big Data Stream.
- Demonstrated thought leadership on emerging data architecture, advanced analytics, data privacy, and security and become a trusted advisor to decision-makers.
- Lead responsible to support planning, building, and running activities within AWS Big Data and understand integrating advanced analytical concepts within the AWS Big Data ecosystem.
- Experience in designing, architect, and working directly with data engineers to implement scalable and cost-effective architecture.
- T-Mobile Cloud data Platform will be implemented on the AWS infrastructure using cloud-native components such as AWS Lake Formation, Redshift/Redshift Spectrum, Athena/Lambda, Direct Connect, Kinesis, and Data Pipeline. Migrate existing data processing and data stores into a cloud platform.
- Built an entire On-Demand Big Data Analytics application (sales orders, inventory, and trends data) to process big data workloads in less time and at a lower cost and capable of real-time streaming as well.
- Extract Transform Load (ETL): Use AWS Lambda to perform data transformations on new data, and load the transformed datasets into Amazon Redshift for interactive query and analysis.
- Building smart applications using AWS ML to easily add predictive capabilities to the application. Kinesis to ingest data from social media sources and Lambda to coordinate the data flow and SNS for notifications.
- Deployed data warehouse architecture in AWS cloud to optimize query performance and reduce costs using EMR for transformation, S3 for storage, Redshift for fast analytics queries, and QuickSight for analyzing and visualizing data.

While engaged at Telenor, Norway from 06/2018 to 04/2019 as a Principal Consultant

- Drive platform setup for Big Data ecosystem on AWS and On-Prem: Talend, Cloudera, Vertica, Spark, Hive, Kafka, Denodo, and Qlik Sense
- Serve as a SPOC in the delivery of AWS Cloud infrastructure and technical input to the design and implementation of solutions.
- Used EC2 instances for Big Data Nodes, S3 for storage and Glacier for archival, VPC peering, Direct Connect for dedicated connection between On-Prem to Cloud and configured Public VIF to access S3 resources and Private VIF to access AWS VPC's. ELB and Route53 for load balancing and traffic routing based on routing policies. SNS, SES for sending notification
- Good knowledge of using Cloud Formation, Terraform (IaC), Lambda, and Python
- Lead the initiatives to identify the right set of cloud technologies to be used for specific types of solutions and drive the effort to streamline and automate those technologies to be used at scale in all products and applications across an organization.
- Architect & Design solutions for cloud (AWS) which are optimal, secure, efficient, scalable, resilient, and reliable and at the same time are compliant with Telenor cloud standards and policies.
- Adopted Kubernetes using AWS EKS: Setup EKS Cluster, Dashboard, Deploy Stateful (EFS) and Stateless workloads, Deployments, Namespace, Networking, and Scaling of Pods as desired.

- Creation of Technical Design Document, Network Topology for the whole infrastructure in AWS. Managing and Mentoring a Team of 30 members and collating with different TM from various BU.

NTT Communication, Chennai, India

**08/2016 –
04/2018**

Project Lead

- Responsible for designing solutions for migration of on-premises to Converged / Consolidated Infrastructure in a cloud environment.
- Own and lead initiatives to define, design, and implement automation solutions which includes reference architectures, estimates, and costing
- Architect and Implemented AWS Multi Region HA architecture using ELBs and ROUTE 53 LBR Latency-based Routing for geographically distributed systems and DR Scenarios on AWS.
- Good Experience in designing systems for high-performance: high throughput, high availability, low latency, etc. Enabled Security to protect data at rest and in transit. Implemented detective controls in capturing and analyzing the logs using VPC flow logs, Cloud Trail, and Cloud Watch Metrics.
- Good Knowledge in Identity and Access Management such as IAM policies, Cross Account Delegation, and Security Token Service (STS)
- Used Cloud Formation/ Former to automate infrastructure management and Boto3 SDK (Python).
- Using Direct Connect, established dedicated connection between AWS and on-premises and used VPN Connection as failover connection (IPSEC Encrypted) between CGW and AWS
- Configured ELB and Auto Scaling Group to handle major and critical workloads.
- Designed and implemented three-tier architecture with Web, Application, and DB on RDS using Elastic Load Balancer (ELB) with Route 53 DNS registered.
- Used S3 for storage with lifecycle management & Glacier for backup and archival purposes.

Comtel Solutions, Singapore

**11/2012 –
03/2016**

Senior Consultant

- Good experience at producing multi-tier, high-availability infrastructure architectures in an Enterprise, ERP & cloud environment adhering to DR, Business Continuity, and availability best practices.
- Involved in pre-sales and educate Oracle customers/partners to migrate their application to AWS. Experience with application and infrastructure management and monitoring tools like Nagios.
- Setup EC2 instances, set up storage, IAM, SNS, Autoscaling, Cloud Formation, setting security groups& cloud watch. Collaborate with AWS field sales, pre-sales, training, and support teams to help partners, customers learn to use AWS services. Work closely with Pre-Sales and Practice, Tower leads, and SME's depending on the stage opportunity.
- Building and recommending a migration approach to lift and shift the workloads to AWS.
- Creating VPCs, modifying route tables accordingly, VPC peering, creating ELBs, and configuring them to work on the service ports as per the application requirement.
- Interacting with clients to gather requirements, support, and manage multiple mission-critical client infrastructures and application deployment on AWS.

AWS Certified Multi Cloud Architect - Cloud & Infrastructure Solutions / Associate Director

Himanshu Khare

PROFESSIONAL SUMMARY

- AWS Certified Multi Cloud Architect - Cloud & Infrastructure Solutions with proven tech expertise in a career spanning around 17+ years
- Hands on experience in cloud and infrastructure design and implementation, cloud solution architecture, data center migration, transition and transformation projects, solution designing, storage management, replication techs, virtualization technologies, public and hybrid cloud setup and designing, automation and backup solutions
- Expertise in proposing, designing, and implementing the next generation cloud solution for end customers predominantly on AWS and is part of the Solution Engineering/Architect and Pre-Sales team of CIS at HTC
- Proficient in designing, developing & delivering cloud solutions for the service line and technically supporting the pre-sales team in pursuits, evaluating POCs, design and test for Cloud Solutions and designing highly available, fault tolerant and DR architecture for the environment
- Proven track record in working closely with the various stakeholders and platform teams to plan, design and architect the future improvements in the infrastructure and client presentations for the company Offerings, Case Studies and POCs for Cloud
- Highly skilled in providing responses and solutions to various RFPs, designing, planning and execution of AWS Cloud infrastructure, policy and best practices design and Datacenter Migration and Transformation Expert
- Well versed in end-to-end planning of datacenter migration including preparation, design, remediation, pre-migration testing and final migration and suggesting the best technology and the infrastructure based on the client requirement and implementation of the same
- Adept at designing of the SAN and NAS infrastructures, implementation of various SAN infrastructure, EMC SRDF & Time Finder setup, monitoring & alerting, performance management & storage performance utilization tracking, storage space utilization on EMC frames & NetApp filers

TECHNICAL PROFICIENCIES

- Virtualization Technologies : VMware, Unified Cisco Systems, HP VM, vPar
- Backup Administrator : NetBackup
- UNIX Administrator : HP-UX, Solaris, Tru64 UNIX
- Cloud : AWS

CERTIFICATIONS & TRAINING

Certifications:

- AWS Certified Solution Architect – Professional in 2021
- AWS Certified Solution Architect – Associate in 2019
- Certified in Nutanix Proven Professionals in 2017
- Completed certification on ITIL v3 Fundamentals in 2016
- Certified in NetApp NCDA CDOT in 2013
- IBM Storage Sales Certification in 2010

- SCSA Sun Solaris (Solaris 10) Certification in 2009
- Windows XP –MCSE Certification in 2009

Trainings:

- AWS: AWS Solution Architect Professional in 2020
- Cisco: Cisco Unified Cisco Systems (UCS), Cisco ICSNS for MDS Switches in 2013
- NetApp: NetApp CDOT Administration in 2013
- SnapCenter: NetApp SnapCenter Administration in 2013
- ITIL V3: ITIL Fundamentals in 2013
- Storage: HP Storage Fundamentals, IBM Boot Camp for Storage Portfolio in 2011
- EMC: EMC Advanced training for Storage Professionals, EMC VMAX, Isilon in 2010
- HP-UX: HP-UX training for experienced administrators in 2009
- Solaris: Introduction to Solaris Administration (Level 1 & Level2) in 2008
- Database: Oracle Database Administration (Level 1, 2 & Performance Tuning) in 2008
- Cluster: VERITAS Cluster in 2008

AWARDS & ACHIEVEMENTS

- Awarded with “Best Cost Saving Idea Award” for providing cost effective solution to client which saved a lot of money to client
- Received “Global Gold Recognition Award” for exemplary contribution to the clients
- Presented with “Customer Delight Award” in recognition of the successful and Flawless Migration of their environment resulting Customer Appreciation
- Recognized with “Global Gold Recognition Award” in recognition of Immense Contribution towards planning and impeccable execution of STaaS 2.0 Project
- Merited with “UniStar Quarterly Award” for the tremendous contribution towards the Unisys CIS community
- Achieved “Chancellor’s Champion Award” in recognition of superior customer service
- Awarded with “ISG Award” to Unisys for Superior Migration of the customer environment
- Presented with “Multiple Spot Awards” in IBM for superior delivery and execution
- Received “Top Achiever Award” for out of the box thinking and going one step ahead to help the customer
- Recognized with “4 Time Star Performer Award” in Infosys for operations delivery

EDUCATION

- Bachelor of Engineering (Electronics & Communication Engineering): Career Institute of Technology and Management, 2004

RELEVANT EXPERIENCE

HTC Global Services

**Mar/2022
- Present**

Associate Director (Principal Architect-Cloud and Infrastructure)

- Part of architectural solution engineering and pre-sales team and responsible for designing, developing & delivering cloud solutions for the service line and technically supporting the pre-sales team in pursuits
- Proposing the cloud design solution to the clients, pre-dominantly on AWS and the right migration approach based on the different type of workloads and dependencies
- Architecting the modernization roadmaps for end customers

- Costing and pricing analysis for the customer environment and recommending the cost-effective solution
- Facilitating asset discovery and mapping
- Validating the client cloud infrastructure based on AWS well architected framework
- Designing and building the cloud infrastructure for the customers and designing HA, DR and Backup strategy for customers
- Evaluating various technologies by performing various POCs and vendors and partners for future collaborations and solution enablement
- Recommending the best practices and approaches towards migration and the potential candidates for modernization/containerization
- Suggesting the best practices to run client workload in AWS securely
- Leading the overall migrations, wave by wave

Accenture

**Oct/2021 -
Mar/2022**

**Technology Architecture Science Manager
(Principal Architect)**

- Helped clients in their journey of cloud and digital transformation
- Managed a team of architects and cloud specialists
- Aided one of the largest food supplier chains in the world in their cloud journey by migrating them to Google Cloud (GCP) while also helping them modernize their applications
- Proposed the GCP design solution to the client and right migration approach based on the different type of workloads and dependencies
- Facilitated asset discovery and mapping
- Recommended the best practices and approaches towards migration and potential candidates for modernization/containerization
- Suggested the best practices to run their SAP workload in GCP
- Designed HA and DR strategy and Backup strategy
- Led the overall migrations, wave by wave
- Continued with modernization approach for remaining applications

Unisys Global Services India

**Nov/2014 -
Oct/2021**

Information Technology Specialist

While engaged at Unisys Global Services India from Nov/2014 to Oct/2021 for Design and Implementation of AWS Cloud Environment as an IT Specialist:

Project Name : Design and Implementation of AWS Cloud Environment

Client : US based Client

- Accountable for technical, managerial, consulting and infrastructure architecture
- Responsible for designing and implementing Cloud Solutions, Cloud Design and Deployment, RFP Discussions, DD Discussions, Knowledge Transitions, Best Practices Drafting and Implementations, Consulting and Client Presentations, Driving Automations Activities, Storage Solutions etc.
- Designed and implemented AWS Cloud environment for an US based client from the scratch including the implementation of it
- Involved in designing the framework, organization structure, defining the policies, defining security standards, design diagrams, setting up of monitoring of the environment, compliance policies, Backup and DR strategy, POCs etc. followed by actual implementation of the design

- Orchestrated design and implementation of AWS Organization for the client environment including Prod/Test-Dev/POC, design and strategy for implementation of effective Security Model in AWS, design and setting up of the effective inter Account/VPC network communication using Transit Gateways and of network communication between On-Prem and AWS using Direct Connect
- Acted as a POC for Veeam Backup and Replication, “Veeam for AWS” backup, NetApp Cloud Volume OnTap for archiving old snapshots to S3 and NetApp Cloud Volume OnTap to evaluate storage efficiency and snapshot features in AWS itself
- Designed and implemented actual “Veeam for AWS” backup for the entire AWS environment consisting of multiple accounts
- Evaluated Site 24x7 as a monitoring tool for AWS environment
- Integrated and discovered all AWS account and resources to Site 24x7 for effective monitoring and alerting and integrated various services with ServiceNow and Slack for incidents and alerting
- Configured Guard Duty with various accounts for effective monitoring for any malicious activities in the AWS cloud environment and integrated it with a lambda function to trigger the findings to a slack channel which gets monitored by NOC team
- Implemented AWS Config at the org level to ensure the resources are compliant based on various custom defined rules and get a notification on non-compliant resources
- Designed and implemented the automation solution using Ansible and Jenkins CI/CD, automated the user driven complete 3-tier stack infra creation to be used for People Soft as A Service where client can launch the complete stack for People Soft with a push of a button and integrated these automation jobs with Outlook and Slack channels
- Integrated Azure AD with AWS SSO for AWS and third-party services
- Drafted various KMS policies for the organizations, customer on-boarding forms for cloud and various policy and procedures for the cloud best practices in AWS
- Worked on various cost cutting measures, with the team on the Data Lake project where captured the data from all the 23 university campuses and analyzed them using Red Shift
- Set up various AWS services like, EC2, DynamoDB, S3, KMS, Lambda, VPC, Transit Gateway, Direct Connect, AWS Org, Service Control Policy, AWS Config, Guard Duty, CloudWatch, Event Bridge, DMS (database migration service), AWS SSO, IAM, CloudFormation, Secrets Managers, Cloud Front, DataLake, AWS CDK etc. and third-party tools like Sit 24x7, Dell Boomi API GW, Dome9 etc.
- Aided Unisys achieve the Elite AWS-MSP partner tag with the recent AWS Audit with several demos and design documentations

While engaged at Unisys Global Services India from Nov/2014 to Oct/2021 for Datacenter Migration/Transformation Project as an IT Specialist:

Project Name : Datacenter Migration/Transformation Project

Client : Leading University

- Emerged as one of the best awarded projects by Unisys, Client and multiple Vendors for the flawless execution and exceptional savings in terms of storage footprints
- Executed the entire project within a span of 6 months including the planning and execution
- Built infrastructure in the new Datacenter, made Datacenter as Production, Old Production DC as the DR site and cut over from the third site
- Involved in building the entire infrastructure in the new DC from the scratch and ensured that the DR capability is not lost at any given point of time
- Planned, designed and setup the entire SAN architecture from scratch in the new DC along with setting up of the DR site followed by successful cutover

While engaged at Unisys Global Services India from Nov/2014 to Oct/2021 for Storage as a Service as an IT Specialist:

Project Name : Storage as a Service

It is a Major Technology Refresh Project involving 2 main Datacenter of Unisys, hosting multiple client environments. Stakes were high as these DCs were hosting multiple clients and getting all of them together, where some of the clients could only afford maximum of 2 minutes of downtime, was a herculean task. It required a high degree of planning and preparation which was the key for the successful execution as lot of remediation was needed due to old and incompatible hardware/software which also needed to be replaced or upgraded.

- Accomplished 95% of the tasks without downtime to applications
- Involved in multiple RFP discussions and knowledge transition of the new accounts
- Responsible for designing and implementing Cloud Solutions, Cloud Design and Deployment, RFP Discussions, DD Discussions, Knowledge Transitions, Best Practices Drafting and Implementations, Consulting and Client Presentations, Driving Automations Activities, Storage Solutions etc.

IBM India Pvt. Ltd.

**Oct/2011 -
Nov/2014**

Technical Subject Matter Expert

Project Name : Storage Infrastructure Services Management

Client : UK based Financial Institute

- Worked in Storage Domain and handled a team of 5 members with focus on various Storage Technologies
- Worked on EMC DMX, NetApp Filer and Brocade Switches which was migrated from Brocade to Cisco, from DMX to VMAX and NetApp got migrated to Isilon
- Part of UK onsite team for the customer facing role during the part of the migration phase
- Participated in writing various proposals/RFP discussions for complete end to end infrastructure solutions, training the other team members for skill enhancements, participating in various IBM SME meets to decide various policies and procedures for IBM
- Environment : EMC DMX, NetApp Filer, Brocade Switches

Infosys Technologies Ltd.

**Mar/2009 -
Oct/2011**

Technology Lead

While engaged at Infosys Technologies Ltd. from Mar/2009 to Oct/2011 Infrastructure Storage Management of Proximus/Belgacom as a Technology Lead:

Project Name : Infrastructure Storage Management of Proximus/Belgacom

- Worked on Storage Arena and participated in various RFP discussion and proposal writings which included sizing/staffing, knowledge transitioning from customer etc., presentation to customers showcasing Infosys abilities in the storage and infrastructure arena
- Part of a team of Storage and Backup Professionals for Proximus environment consisting of EMC Storage DMX-3, DMX-4, Clariion CX-3, CX-700, Brocade 24K & 48K Director and Silkworm 4100 & 5100 Switches and SRDF as replication technology

While engaged at Infosys Technologies Ltd. from Mar/2009 to Oct/2011 Transitioning of the Proximus/Belgacom Storage Infrastructure as a Technology Lead:

Project Name : Transitioning of the Proximus/Belgacom Storage Infrastructure

- Planned and executed the complete handover of the Belgacom Storage Infrastructure delivery to Infosys in Brussels including the documentation of the complete storage infrastructure
- Worked at client location and was solely responsible for taking most of the storage delivery from the client by showcasing skills in the Storage/SAN domain

Infosys Technologies Ltd.

**Feb/2005 -
Mar/2009**

Technical Analyst

While engaged at Infosys Technologies Ltd. from Feb/2005 to Mar/2009 for Infrastructure Management Project as a Technical Analyst:

Project Name : Infrastructure Management Project

Client : Firmenich

- Responsible for daily operational task in UNIX, Storage & Backup area
- Part of the onsite team based out of Geneva and was instrumental in client interfacing and delivery of the project
- Accountable for end-to-end monitoring of UNIX environment by setting up of Sun Management Centre and Zabbix

While engaged at Infosys Technologies Ltd. from Feb/2005 to Mar/2009 for Global Data Centre Migration Project as a Technical Analyst:

Project Name : Global Data Centre Migration Project

Client : Firmenich

- Actively participated in the Data Centre move project based out in Geneva which included the relocation of the complete data center into two new data centers designed for high availability and disaster recovery
- Project included consolidation of servers
- Involved in the primary design and implementation of the project which included discussions with all the stakeholders, designing the infrastructure as per customer's requirement etc.

While engaged at Infosys Technologies Ltd. from Feb/2005 to Mar/2009 for Backup Infrastructure Upgrade Project as a Technical Analyst:

Project Name : Backup Infrastructure Upgrade Project

Client : Firmenich, USA

- Planned and executed the backup infrastructure upgrade project for Firmenich, USA
- Worked at client location and was responsible for end-to-end infrastructure designing of SAN based backup infrastructure
- Bought the old LAN based backup infrastructure to SAN infrastructure which included server upgrades, firmware upgrades, fiber cabling, EMC VTL configuration, NetBackup upgrades, installing and setting up the new Master & Media NetBackup servers, configuring the NDMP backups for filers etc.

End of Proposal



Innive Response to LAUSD

IT Support Services (Finance and Administration)

MSA Work Order Solicitation No.202236

IT Hardware Asset and Inventory Management System

