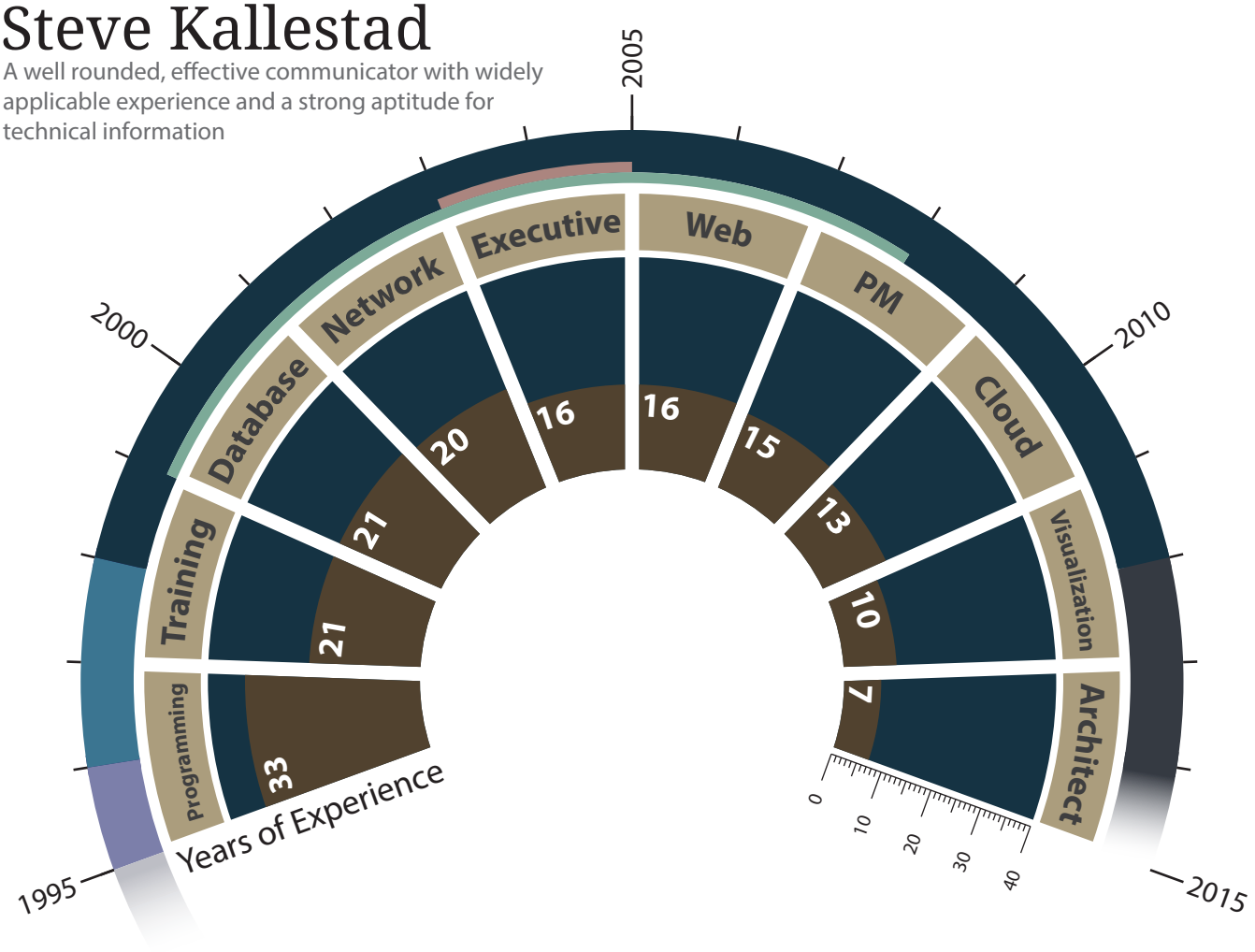
Steve Kallestad

A well rounded, effective communicator with widely applicable experience and a strong aptitude for technical information



2012 - Present
TabTonic
Director of Software Development

1998-2012
Ingenuity Professional Services
President,
Chief Technical Consultant

1996-1998
Barnhill Associates
Senior Consultant

1995-1996
En Pointe
Consultant

2003-2005
Coming Attractions Imaging
Chief Technology Officer

1999-2008
Web Properties

Before 1995
Various Businesses
Network Administrator,
Technical Consulting,
Software Development,
Training

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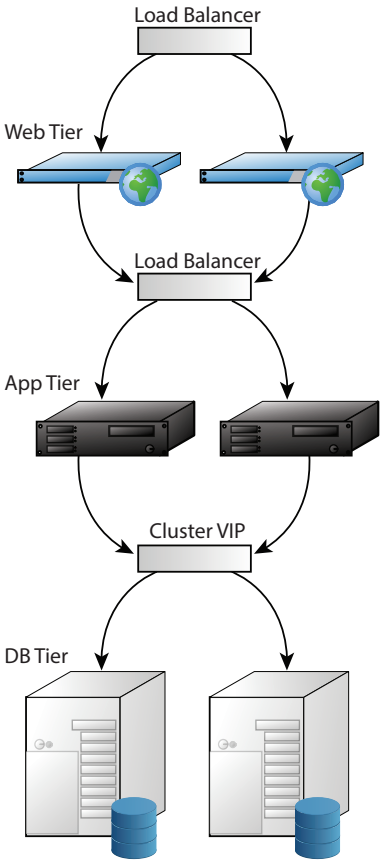
Contents

Information Technology is the backbone of business. IT Service Management is the backbone of IT.

The Remedy Action Request System

The Remedy Action Request System is the leading IT Service Management platform.



A good deal of my career has been heavily associated with the Remedy Action Request System. For that reason, I feel it is important to provide a basic understanding of what Remedy is.

The Action Request System is a proprietary development platform focused on enterprise needs. A set of commercial applications reside on top of that platform comprising an ITIL aligned IT Service Management solution.

At it's heart, Remedy is the same as many IT workflow platforms. It is a highly customizable database backed application that supports a variety of integration methods. It provides a web interface. It involves a complex installation and a project based implementation.

Remedy also carries with it common challenges in enterprise software like role based security, archival management, and reporting.

When I first started working with Remedy it was a 3-tiered system with two key characteristics:

1. It allowed for easy Rapid Application Development.
2. It put a time stamp on everything.

Over time, the Remedy ecosystem has changed. It is now a 4-tier system. Custom application development is now a significantly slower process and not as officially encouraged as it once was.

The primary market for Remedy in the beginning was actually custom built Help Desk solutions. Help Desk was a fairly new concept in the mid-90's, and Remedy was the best-of-breed platform to build one on. Remedy released their own Help Desk application that sat on top of the Action Request System platform. They also added Enterprise Change Management and Asset Management to the mix. Over time, the application suite has grown into what it is today - a set of more than 60 applications encompassing all aspects of IT Service Management.

The base Remedy solution is comprised of more than 6,000 database tables, more than 7,000 views, and more than 100,000 workflow objects.

The Remedy application server supports a variety of database back ends, including Microsoft SQL Server, Oracle, DB2, and Informix. Most human end user interaction comes through a web client residing in a servlet container. The web application in turn communicates with the application server. Many servlet containers are supported, but most customers leverage either Tomcat or WebSphere. API clients and administrative tools can communicate directly with the application server. Official API libraries are released for C and Java. The community has developed API support for Python, Perl, PHP, C++, and dotNet.

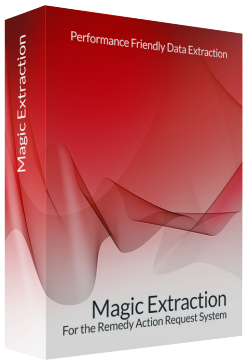
At a very basic level, Remedy applications are responsible for CMDB, Incident Management, Problem Investigations, Change Management, Release Management, Asset Management, Knowledge Management, Contract Management, Software License Management, and Service Level Management.

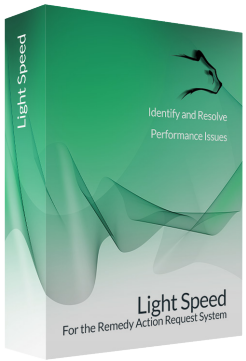
Implementations involve a review and sometimes a realignment of business processes; the definition and development of integration points; and application customization and development. Implementation teams are as small as 10 people and can grow significantly beyond that. The timeline for an implementation can be as short as 3 months or longer than a year. Environment sizes range from fewer than 10 servers to more than 50.

TabTonic provides software solutions for consultants and enterprises who use the Remedy Action Request System

TabTonic

Director of Software Development, 2012 - Present





Remedy implementations in large enterprises are complex. TabTonic is focused on developing software to support those implementations. TabTonic is a small business, so I have been intricately involved in every project and every aspect of the business. Our business model is such that solutions were developed to address client specific problems. My main focus is ensuring that those solutions are repeatable across customers, across platforms, and across versions of the Remedy Action Request System.

I am also responsible for monitoring the ITSM ecosystem and the technology industry in general for trends, new technologies, and upcoming changes so that the business can be appropriately prepared for upcoming changes.

I manage both internal and external projects. My internal projects include the implementation of:

CRM Software
Lead Generation Software
IP Telephony Platform

Remedy on Linux and Windows with
Oracle and SQL Server back ends leveraging
Tomcat and other servlet containers

Splunk
Rackspace Cloud and Amazon EC2 implementations
Hadoop, HDFS, Hive, and related services
CDH

Jenkins
GitBlit
Nexus
Jira

On external projects, the primary platforms used by TabTonic are Java, Remedy, and a custom built web environment deployable as a desktop application.

I manage the development process and act as the primary developer for the solutions we create.

At TabTonic, we generally build solutions on spec. This means that we have a client with a particular challenge that needs solving within their Remedy environment. We will meet with the customer, gather requirements, and come up with a recommended solution. While customer needs always come first, our business model is such that we need to build repeatable solutions that will work across platforms and across versions of Remedy or Remedy applications. This gives us the ability to resell these solutions to other customers moving forward without additional work. It is important to have a streamlined project management process so that our customers expectations are met and our internal needs are managed as well.

In a sense, the actual software development is the easy part of what we do. For the most part our software has minimal end user interaction as well as a very clear, limited purpose. It's simply a matter of engineering a solution. Development is only a small part of the equation.

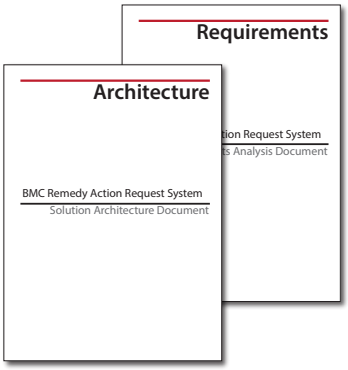
Solutions that are built to spec are generally collaborative. That means managing resources that I don't control while meeting deadlines and budget constraints.

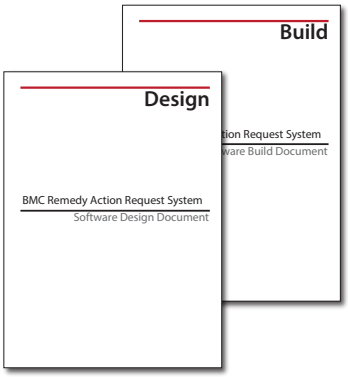
While Java, Remedy, and Web technologies serve as the primary platforms for development, it is also necessary in many instances to leverage other technologies. I am very comfortable with a wide variety of languages.

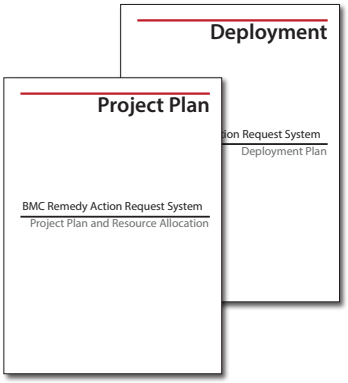
Ingenuity is a consulting firm focused on delivering full life cycle implementations of the Remedy Action Request System

Ingenuity Professional Services

President and Chief Technical Consultant 1998-2012







Ingenuity Professional Services is a consulting firm focused on implementing ITSM solutions based on the Remedy Action Request System.

Our projects were generally full life cycle projects for large enterprises. A simplification of a full life cycle project is as follows:

Executive - determining high level strategies, budgets, resources, and timelines.
Architecture - determining system requirements, connectivity, firewall rules, and integration points.
Requirements and Design - run workshops with key parties to determine functional needs, foundational data, etc.
Development - build a solution to meet the documented requirements.
Testing - making sure everything works as expected.
Training - build and deliver appropriate training and knowledge transfer.
Deployment - move software into a production environment.
Support - post-deployment changes, lessons learned.
Future - next phase planning or determining any needs for customer independence.

I was involved in each of these phases extensively, often running multiple projects concurrently. I earned a reputation for completing projects successfully both on time and under budget. In some projects I would be a primary resource for all phases. In others, I would manage internal and external teams to accomplish the project.

Most Remedy projects that I was involved in are complex environments. A base implementation of Remedy with minimal customization is a sizable project in and of itself. My target customers were environments that had needs above and beyond the norm. These were environments that involved complex integration points, custom application development, regulatory challenges, or other high risk areas of concern.

My reputation was strong enough that I have been asked to speak at conferences, have been contracted to run internal projects for BMC Software (the makers of Remedy), and have been hired to handle support requests that BMC was incapable of resolving internally.

I was one of the first 100 Remedy Approved Consultants, and I was also certified as a trainer for Remedy products.

My reputation for success in significant and very complex implementations during the early stages of this industry gave me the privilege of shaping it in a great many ways.

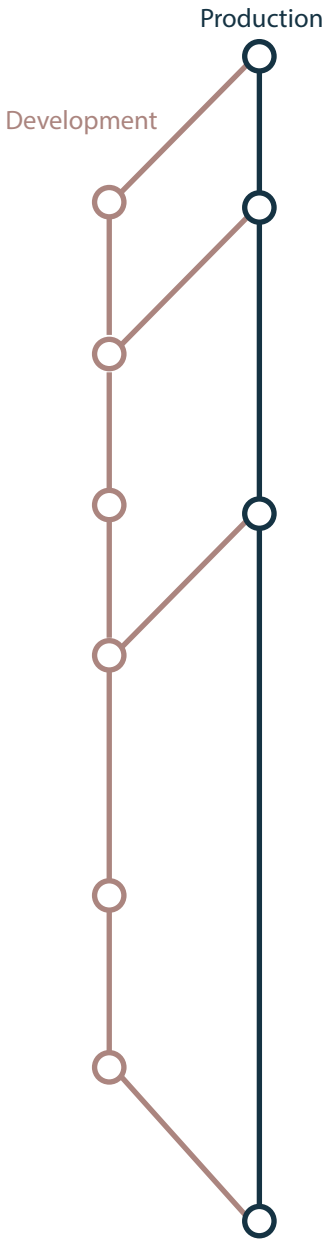
Many of my system enhancements are now included in the Remedy product offering. I led an internal BMC project defining their consulting processes and giving them the ability to quote projects in a standard manner. I have defined many best practices. Project templates that I personally wrote are widely used across the industry.

In addition to work as a consultant, I also trained and mentored many other very successful people in the ITSM space.

> “Most people overestimate what they can do in one year and underestimate what they can do in ten years.”
>
> *Bill Gates*

Web Properties

1999-2008



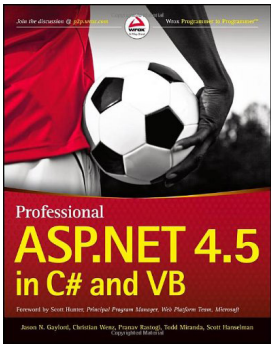
At some point in 1999, I grew frustrated with down time and costs involved in hosting the Ingenuity company website. I bought a web server, installed a LAMP stack, and co-located it in a data center. Over time, I put a few more environments together and ended up managing somewhere between 30 and 40 domains. Within those domains I managed several hundred web sites.

Some of the domains were personal sites like blogs or my wedding web site. Some of the domains were organizational, such as alumni web sites, a sports league. Some were online communities. Others were business sites. Business sites include a WebEx reseller with an instant messaging plugin for creating instant meetings (at one point that was difficult); a website that would perform online reservation confirmations at SouthWest.com to ensure that you were in the “A” boarding group; and a wedding information and news website that allowed members to create their own wedding websites.

Over the years, I experimented with a wide variety of content management systems, blogging software, wiki platforms, portal systems, and message boards. I developed some of my own, and built a set of utilities for managing content and performing regular tasks.

This was an interesting time period in the development of the web for a variety of reasons. The mobile web was just being formed with early phones supporting a special language. PHP was a fledgeling scripting language. Linux based web servers were just starting to gain serious traction. SEO and SEM were exploding.

Performance has always been extraordinarily important to me. I was one of the first people, if not the first to offer compressed versions of popular javascript libraries like Prototype.js and JQuery. When I did that most people were still using dial-up and those libraries could increase page load times by more than 20 seconds. My compressed versions decreased the page load overhead to 1 second, and I outlined procedures for increasing performance beyond that by leveraging cache control HTTP headers. My work in this regard is mentioned in the book “Professional ASP.NET 4.5 in C# and VB” by Gaylord, Wenz, Rastogi, Miranda, and Hanselman.

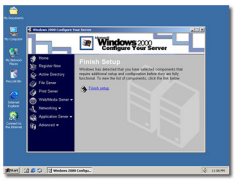


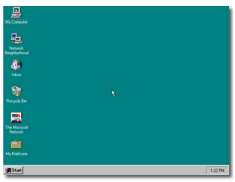
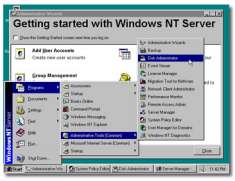
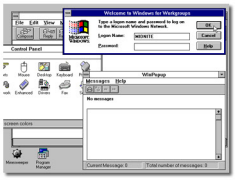
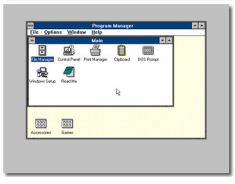
My work with these web properties exposed me to a lot of technology very early on. Early exposure is very powerful because it creates a foundation of knowledge to build on as that technology matures and even when it shifts in a new direction. For instance, when you’ve worked with XML extensively with no real alternatives, JSON is a very easy concept to understand. The power of Git is readily apparent if you’ve ever had to merge between branches with CVS. Working with Lucene and Nutch early on provided a good foundation for learning Hadoop and Solr. The list of examples could go on for pages, but the end result is that my aptitude surrounding new and maturing technology is very strong.

Changes In technology over the course of my career





Coming Attractions Imaging

Chief Technology Officer, 2003-2005

Coming Attractions Imaging was a 4D Ultrasound Imaging center.

My responsibilities with Coming Attractions involved creating a new kind of business - retail imaging. I was introduced to the technology during my wife's first pregnancy. There were few places to get a 4D ultrasound done at that point. Most doctors did not provide the service and Orange County, California did not have any existing providers. As it turned out, Orange County had one of the densest birth rates in the nation.

I put together the technology surrounding the business. This included the basic IT Systems - CRM, Human Resources Management, Point of Sale systems, a clustered printing environment, retail and customer web sites, e-mail, support services, VPN, etc. It also included the management of other technology solutions - things like setting up viewing rooms, handling special electrical requirements, and selecting vendors, manufacturers, and support solutions for ultrasound machines.

Aside from the technical and management responsibilities, putting this business together also involved liasing with medical professionals and government officials in order to break the ground to gain necessary approvals.

During my time at Coming Attractions, I was recognized with the Congressional Leadership Award and given the position of Chairman of the California Business Advisory Counsel. This amounted to communicating to congress that the primary legislative concern of myself and all of my business contacts was lowering taxes. It wasn't particularly glamorous or exciting, but I don't know anybody else who was given an award by the United States Congress, so I am very proud of it. I did not make any political donations that year.

You may have noticed that my time at Coming Attractions overlaps with my time at Ingenuity. I held both positions simultaneously. Working both positions was a matter of good time management, working long hours, and leveraging newly accepted telecommuting technologies whenever possible.

Barnhill Associates

Senior Consultant 1996-1998

Barnhill was a consulting firm very similar to Ingenuity. The focus was on Remedy Action Request System implementations. I worked both as a consultant and as a trainer for developers and administrators. I also trained entry level consultants.

En Pointe

Consultant 1995-1996

My consulting role at En Pointe was less focused on a particular product and more focused on providing technology solutions in general. I built documentation automation systems, help desk solutions, and solutions for emergency services to use during a major disaster.

Prior Positions

Before 1995

I took my first programming class at the age of 8 in 1981 and I've been hooked on technology ever since. I began working in computer repair in high school for both CompUSA and Computer City. During college I tutored for math and programming courses. Fresh out of school, I began doing network consulting - planning and implementing networks for mid-sized businesses. I also worked as a software developer at a gaming company, and as a network administrator for a large commercial real estate firm.

A Sample of My Customers

This page contains a collection of customers who have leveraged my solutions

Sample Projects

What follows is a brief description of several projects that I have worked on.

Mutual of Omaha

Mutual of Omaha is a fortune 500 company with revenue larger than $4 Billion and thousands of employees. The business itself is divided into a number of subsidiaries. Data and resource sharing between the collection of Mutual of Omaha companies is regulated in some instances.

The project at Mutual of Omaha involved both a migration between versions of Remedy, and a competitive migration where the responsibilities of some applications moved under the Remedy umbrella. There was also a shift in the Remedy environment from an AIX and DB2 platform to one consisting of linux and Oracle. My role in this project was that of a solution architect.

As the solution architect, my responsibilities and focus changed over the course of the project. At the project outset, my role was to determine system basic requirements such that production, test, and development environments could be planned and purchased. As the project progressed, I introduced various groups of employees to the technology and ran various workshops to gather requirements and collect other information related to the implementation. During this process it was important to steer the eventual end user community towards a set of requirements that was feasible to implement, one that could be implemented within a reasonable time frame, and one that would be maintainable moving forward.

My output products were a solution architecture document, a requirements document, a design document, and a project plan for implementation. Finalizing these documents was a negotiation process where I worked with Mutual resources to refine and realign their needs with their budget and timeline constraints. Beyond this phase of the project, I determined the skill sets necessary for project resources and worked with them as a technical advisor. The end solution involved:

More than 30 data integrations
More than 30 instances of federated data
Hundreds of analytical reports
More than 30 servers
Working with more than 100 employees directly
Timely cooperation between a variety of vendors

MediaOne / AT & T

MediaOne was one of the first providers of cable-based broadband internet service in the United States, and also one of the first providers of digital telephone service. During the course of my involvement with MediaOne they were consumed by AT&T. The Remedy Implementation and team survived the merger and some components are still in use today.

My role at MediaOne was that of a lead developer and project manager. This company experienced massive growth from being a relatively small regional cable provider to having a nationwide customer base. This was both a very high pressure and a highly regulated environment with a business model and structure as complex as any. I was involved in a series of upgrades and migrations, as well as iterative development and maintenance cycles.

The Remedy system housed telephony ordering, cable modem provisioning, 9-1-1 data, both internal and external support services, facilities management, asset management, change management, and many other applications. We had more than 10,000 end users.

Sutter Health

Sutter Health is a network of hospitals and health care providers with an operating revenue of 10 billion dollars. They have 50,000 employees operating in different locations serving over a hundred communities in Northern California.

I have operated as the Solutions Architect, Lead Developer, and Project Manager through several version upgrades and migrations over the years. I completed several full life cycle projects and advised Sutter Health on business structure and management practices. I developed a mobile device solution for Sutter years ahead of a mobile solution being made available by BMC. Sutter's environment involves a large series of integration points and a good deal of development specific to the regulatory and business requirements of their vertical market. Sutter Health has been internationally recognized as one of the best support organizations in the world.

Lucent Technologies

Lucent Technologies was a 10 Billion dollar company with more than 30,000 employees with divisions spanning the globe. Their equipment provides the backbone for telecommunications and internet service everywhere in the world.

My role at Lucent was as a senior developer and I was also in charge of quality assurance. This project involved 10 senior level developers and a larger group of junior developers, QA technicians, and a variety of other positions.

During the time I was involved with this project, it was the world's largest Remedy implementation. This implementation involved 7 languages and servers positioned globally. For this project, we developed a series of custom applications inside Remedy to manage Lucent's support services infrastructure.

Stanford University

Stanford University is one of the world's most prominent universities. Stanford is a 5 billion dollar enterprise with roughly 15,000 employees along with another 18,000 students.

Stanford has leveraged my services repeatedly over the course of several years. I have provided custom training classes and provided mentorship for their internal team. I have built for them a number of complex integration points. Their integration points are to numerous to iterate, but some examples would be:

Email - a two-way e-mail integration with automated spam detection capable of detecting misspelled and abbreviated field names and ticket IDs,

Security - a custom row level security model, encrypted LDAP communication, single-sign-on via Kerberos, and end-to-end encryption.

Application Monitoring - a load balancer integration leveraging both AR System APIs and F5 APIs.

Data Migration - migrating data at less than 1/10th the time required by tools provided by BMC.

My work at Stanford helped to make them the model implementation for higher education environments world wide. My work at Stanford has been highlighted at 3 conferences, and as a result I have provided advice, assistance, training, and consulting to institutions like Harvard, NYU, Texas A&M, Temple, and many others.
Application Monitoring - a load balancer integration leveraging both AR System APIs and F5 APIs.

9-1-1 Emergency Services

9-1-1 is the phone number everyone in the United States calls for help in an emergency. The telecommunications vertical is a challenging one because of the complexity of the infrastructure, business world, and regulatory concerns. 9-1-1, at the time I modernized it, was cooperatively run by several major telephone companies. The telephone companies didn't always work well together, to put things nicely. This particular project was a failed endeavor for 4 senior level consultants prior to my involvement. This was one of the projects earlier in my career that provided me with a reputation for getting projects done on time and under budget; having success with challenging customers; and providing effective solutions to difficult problems.

9-1-1 was a largely paper-based operation upon my arrival. For instance, if a phone line was moved from one address to another, the company responsible for that line would mail in a form. If a new house was built, a form would be mailed in providing the details to emergency services. I built the interfaces and designed the workflow so that emergency services operations could be automated. This, coupled with legislative requirements, led to consulting and software development opportunities at most major telcos in the United States.

United States Postal Service

The United States Postal Service is one of the largest organizations in the world with an operating budget of approximately 75 billion dollars and more than half a million employees.

I was brought into USPS specifically to create a set of web services that would survive multiple versions of Remedy. This included determining what stable web services could be provided, determining the architecture, requirements, and data structures behind those web services. It also included developing regression tests, end user and training documentation, and providing maintenance plans. While on project, I discovered numerous problems associated with their environment, resolved several emergency downtime issues, and provided mentorship for their internal Remedy and database administration teams.

Sample Applications and Utilities

What follows is a brief description of several software applications and utilities that I have created.

License Magic

Remedy software licensing is one of the more complex licensing models in enterprise software. With hundreds of end users, it is a very common practice to assign licensing and permissions according to a template rather than analyzing the needs of an individual user. This practice can dramatically increase the cost of licensing and support. License Magic is a piece of software that extends the information available in remedy implementations regarding license assignment and usage, analyzes end user activity, and configures end user licenses in the most cost-effective manner.

ARSplunk

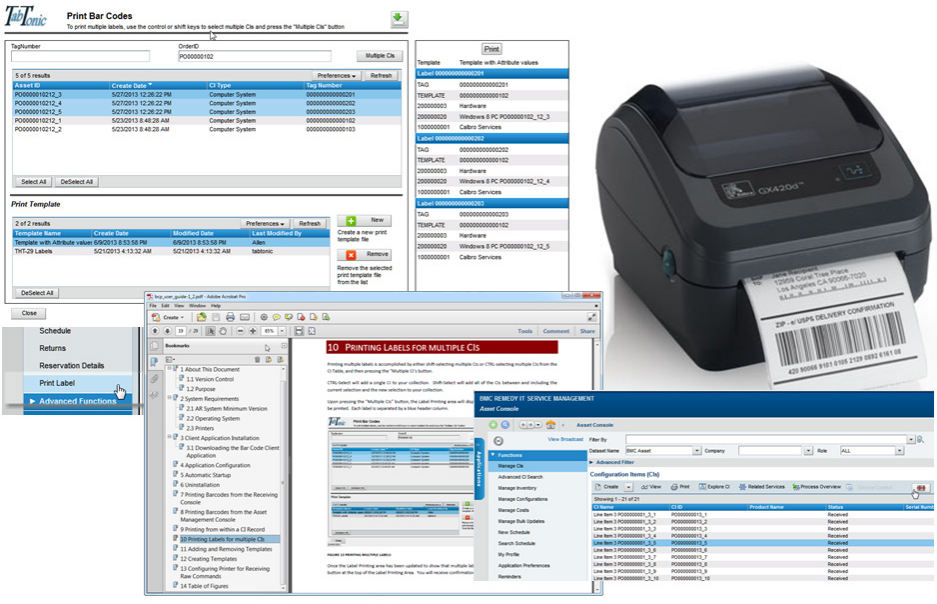
When something goes wrong in a Remedy environment the event is usually logged somewhere. One of the problems administrators face is figuring out which log file contains the information they need in order to resolve the problem. Logs are generated on various servers in different formats and they are located in many different places in the file system.

ARSplunk consolidates the logs across servers into an easy to consume queryable web interface. It provides visualizations and templated queries for identifying and resolving common problems as well as providing indicators of future problems.

BCP

BCP provides integrated bar code label printing to Remedy environments.

Bar code labels are typically used for asset tagging, and making scannable serial numbers available on equipment without having to move that asset. Bar code printers use different languages than standard printers and there is no browser support for them. This is a problem when an Asset Management application like Remedy only provides a web interface. My Bar Code Printing application provides a web interface for printing bar code labels. It supports a wide variety of bar code formats and printers. It also provides the workflow components necessary for a seamless integration with Remedy's Asset Management application, so bar code labels can be printed directly from within Remedy.



Other Applications

I have created many other applications and utilities for challenges facing Remedy environments. As mentioned previously, I have developed several mobile solutions. I have created a utility for log file anonymization - so log files can be transferred to an external support resource without revealing any proprietary or private information. I have created a testing suite for Remedy environments that automates unit, regression and load testing by leveraging multiple versions of real web browsers on various platforms across a set of servers that can be geographically dispersed. I have also built single-sign-on authentication mechanisms. I have built data migration utilities and utilities for importing, generating, and exporting data from Remwedy environments.

This is not a comprehensive listing of the software that I have built, but it does represent my area of focus over the last several years.

Experience

These paragraphs provide an overview of my experience as it relates to some major topics.

Project Management

There are a lot of different project management methodologies available to choose from. I've spent a good deal of time studying various methodologies including PMI (pmbok), Agile, Six Sigma, Waterfall, Prince2, and various other standards. I haven't ever come across an organization that follows any of these standards strictly, and for good reason. They are guidelines and frameworks, not rules to live by. When you look at how technology projects run across different vertical markets there are a variety of priorities and pain points.

I have managed a large number of projects over the years, both internal to my organizations and external projects for paying clients. I have a series of project templates that I draw from, but each organization is different, each project is different, and with technology changes come new challenges. At the outset of each project, I talk with the interested parties to determine the key success factors that they will rely on. It's surprising how different project priorities can be.

To me, project management isn't simply a matter of outlining a task list and pushing people to reach a deadline. There are a plethora of challenges surrounding any technology project. A PM should manage risk, open communication channels, and do what is necessary to provide team members with the ability and motivation to execute their best work.

Programming

I have been actively programming in some fashion or another for 33 years. The challenges it provides me with are unique and rewarding. I am comfortable with and have experience developing software in many programming and scripting languages. I do have experience developing Domain Specific Languages as well. My development experience crosses disciplines such as mobile development, web development, desktop applications, and utility scripting. I have a strong foundation in understanding how programming languages work, how computing devices work, and how software is engineered.

I also have a strong understanding in troubleshooting and understanding how things can go wrong with software development and with software deployments. I've experienced so many situations where things don't work as expected when changing seemingly innocuous variables. Troubleshooting is a simple concept, but people who are good at it are rare.

Training

Training has been a large part of what I do for almost as long as I can remember. I have created customized classes, built web based training, and have experience teaching in-person classes as well. The largest training project that I managed was a completely custom class with a set of 5 instructors tasked with training several thousand end users over the course of a few months.

I have taught classes at Stanford, the California State University system, Arizona State University, and a few other higher education environments. I have also taught classes in corporate environments. At one point, I taught all of the End User, Administrator, and Developer training for Remedy in Southern California. We would hold classes intermittently in a dedicated training facility, and corporate clients as well as consulting firms would send their students to my facility for training and certification.

Database

My senior project in college was a database application, and I have worked extensively with databases ever since. Remedy clients typically leverage either Oracle or SQL Server databases, but I have also had clients that ran DB2, Informix, and Sybase platforms. Some environments leverage other databases like MySQL and Postgres in one fashion or another. Some projects that I have worked on involve other database implementations - from NoSQL solutions like Mongo to LDAP solutions like OpenLDAP or ActiveDirectory, to environments like Hive that don't lend themselves to a simple category.

Databases were not always as responsive and safe as they are today. 15 years ago, scaled reliability was a serious challenge and simple end user queries could take down an enterprise system. Growing up professionally as the various database platforms matured gave me motivation to understand performance ramifications associated with database design.

I am comfortable designing databases and working with large and complex databases. I am experienced with implementing databases and am comfortable administering database environments to a degree. SQL Server and most other databases are fairly simple to manage. Oracle is a different animal altogether. While I do know a good deal about Oracle and have extensive experience working in Oracle environments, I also know how complex enterprise Oracle environments can be.

Networking

I am not a network engineer. My knowledge of network communications, equipment, and design is stronger than most people, but well shy of being an expert. The nature of my profession is such that a strong knowledge of networking is required on many projects. We manage network assets, integrate with monitoring systems, and have network performance issues. Remedy is not a particularly efficient application were networking is concerned. As a result, the architecture of Remedy solutions always contain a series of networking components.

I do have experience installing, configuring, and troubleshooting some network components, such as modem banks, CSU/DSUs, routers and load balancers, but I would qualify that experience by saying that those kinds of things are not something that I do with any sort of regularity and my efforts to keep up to date on networking technology are primarily for the purpose of being able to communicate effectively with network engineers as part of my normal workload.

Cloud Computing

I began working with Amazon's EC2 cloud since just after it was initially released. I have operated servers in Amazon's cloud, the Rackspace cloud, and the Google cloud. My reasons for operating those servers involved web hosting; running large data analysis jobs; providing demo servers and sandbox environments; and leveraging servers for automated tests.

In private clouds environments, I have worked with SAAS providers for both integration points and hosting of Remedy environments. I have also worked projects for large enterprise cloud providers like CSC, IBM, HP, and others.

Data Visualization and Analytics

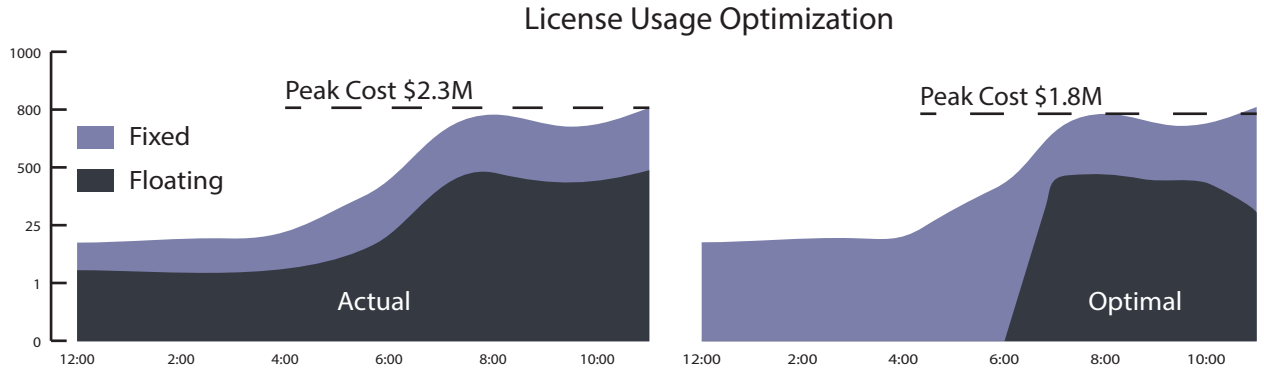
Reporting is an implicit part of every Remedy deployment. For many years, Crystal Reports was the most common reporting mechanism as support for viewing reports generated by Crystal was built in. With more recent versions of Remedy, functionality for viewing BIRT generated reports has taken over. BMC also offers a package called Analytics for reporting. It is a Business Objects implementation with a predefined universe. I have worked with other tools over the years with most providing very similar functionality and operation.

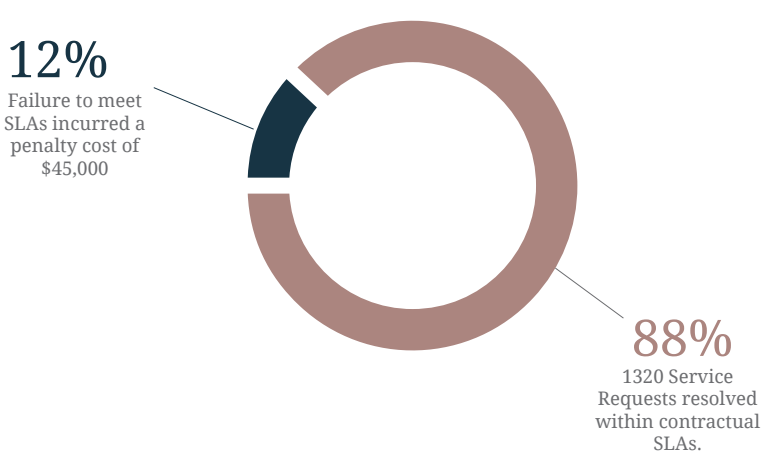
Remedy does provide functionality for displaying real-time visualizations of data contained within the system. This functionality is known as Flashboards, and pages defined to contain a collection of Flashboards are referred to as Dashboards. Dashboards are very useful. The downside to them is that they can incur a serious performance hindrance when not designed properly.

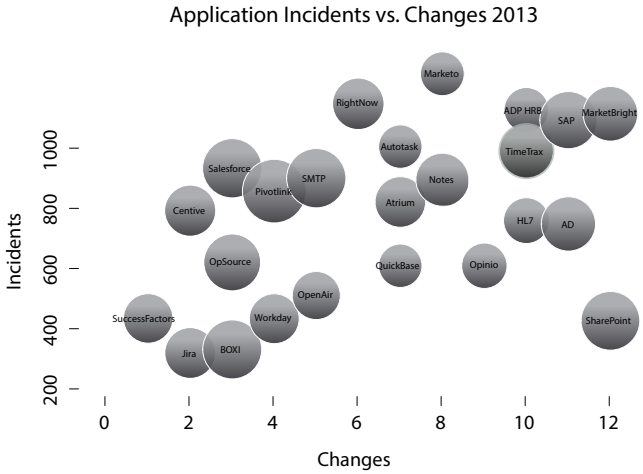
I never have been completely satisfied with the visualization solutions available directly within Remedy and until the last few years good visualization libraries available for development languages I work with have been very limited. As a result I've explored and worked with numerous options. I am familiar with many of the commonly used tools today like the D3.js library and Tableau. I am also familiar with less commonly used tools like R, Flare, GraphViz, Flot, and Gephi. Beyond that, I have also leveraged tools like Illustrator and Corel Draw for static visualizations.

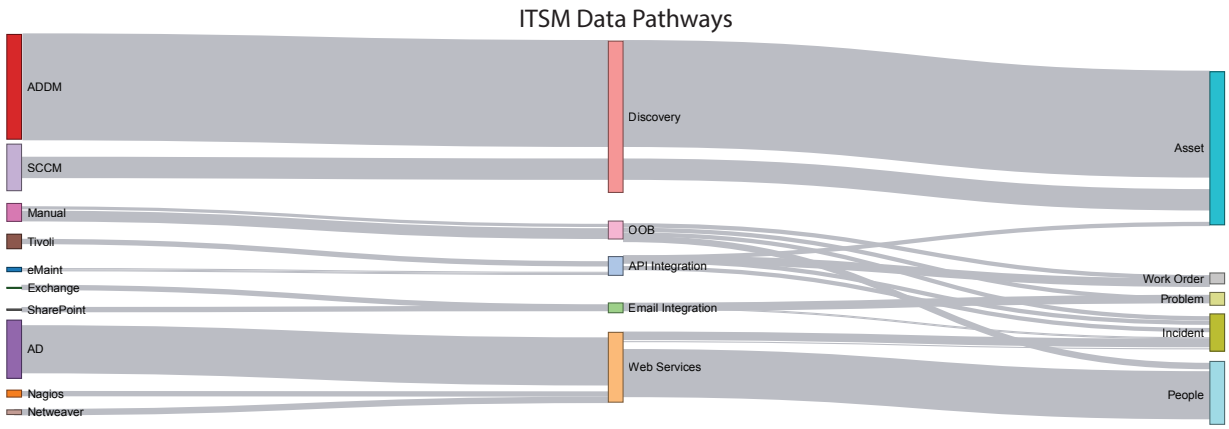
Reporting and visualization is important, but more detailed data analysis plays a very important role in IT Service Management. Being able to identify trends and predict the future is one of the reasons that so much time and effort is put into building management systems. A working understanding of big data technology, statistics and data science is required to answer many of the complex questions that have been spelled out during the course of my projects.

A small set of sample data visualizations is shown below to provide a visual understanding of the types of things I have been asked to provide.









Solutions Architect

Solutions Architecture is something I've been doing to some degree for most of my career.

I formalized the role as part of our project management process because the complexity of implementations had grown significantly. The solution architect's job reaches into all areas of the project. There are varying definitions of what a solutions architect actually does. For clarity, I have created the below diagram that depicts the solutions architect role as I have been used. In many projects, the solution architect also is a floating resource, augmenting or replacing lower level resources according to project needs.

The most important foundational duties and requirements are at the bottom.