

# Case studies in partnership

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### **Astra Infotech**

*Astra Infotech has been an IBM Business Partner since 2003. Prior to that, Astra was a partner of Rational. Astra Infotech is currently working in the states of Kerala and Tamil Nadu. The main objective of Astra Infotech is to work closely with the customers to solve their software development related issues and challenges as well as automation needs. In this process, Astra Infotech leverages the support from IBM technical and marketing team to reach out to the small and medium customers in Kerala and Tamil Nadu. As part of the educational support, Astra Infotech is working very closely with many universities and colleges in these states to propagate the value of software engineering and automation. Over the years, Astra Infotech has been able to generate many success stories towards the adoption of software engineering approaches as well as automation of various engineering practices.*

## **Astra Infotech: An IBM Rational Business Partner**

*Astra Infotech has associated with IBM Rational as a business partner since 2003, after Rational software has become a part of IBM. Prior to that Astra Infotech was a partner of Rational Software. Astra Infotech is currently working on the states of Kerala and Tamil Nadu. The main objective of Astra Infotech is to work closely with the customers to solve their software development related issues and challenges as well as automation needs. In this process, Astra Infotech leverages the support from IBM technical and marketing team to reach out to the small and medium customers in Kerala and Tamil Nadu. As part of educational support, Astra Infotech is working very closely with many universities and colleges in the region, to propagate the value of software engineering and automation. Over the years, Astra Infotech has been able to generate many success stories towards the adoption of software engineering approaches as well as automation of various engineering practices.*

### **Major Milestones:**

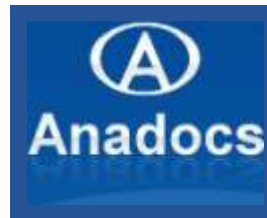
- 2002: Astra Infotech along with Rational set up a software engineering competency center at Technopark, Trivandrum called TSECC (Technopark Software Engineering Competency Center)
- 2003: Started ASSIST Academy, an exclusive academy for software engineering training
- 2006: A perfect 10/10 on customer satisfaction survey conducted by IBM India through their external agency
- Rookie award for fastest growing partner of IBM Rational block in the country (India)
- 2006: Become the first IBM ECIS partner in India First partner to present two success stories along with the customer on RSDC Bangalore
- 2007: Astra become the first Indian company to sign up with IBM Germany as a partner

*Let me take this opportunity to thank all of our esteemed customers and the timely help and support from the IBM Rational team, to make us what we are today. I am very confident that we will be able to create more and more success stories with your continuing support. We are looking forward to many more opportunities to work along side you and to create a win-win situation for all involved.*

Regards



**Vipin Kumar**  
Managing Director  
& Software Engineering Evangelist



Anadocs aspired to adopt software engineering best practices and get CMMI certified. To ensure they accomplish this IBM Rational Software provided guidance, consultation and services through IBM Business Partner Astra in the disciplines of Requirement gathering, analysis and design, change and configuration management and software testing.



**Client Background:**

Anadocs IT Solutions Private Limited (AITS) provides global solutions for its clients. Anadocs IT Solutions is a wholly owned subsidiary of Anabond. The parent company, Anabond is a market leader in the adhesive and sealant industry. Anadocs IT Solutions provides Internet, Multimedia, Entertainment, Software Development, E-Publishing, Data Conversion and Engineering services, providing total solutions on the latest cutting edge technologies to its customers worldwide.

**Business Need:**

Anadocs IT Solutions have a well-documented Quality management system that addresses the key practices of SEI-CMM and ISO 9001-2000. With an overwhelming flood of information, it was difficult to track progress and establish traceability. Information spread over different disconnected, specialized tools did not help in deriving a holistic picture or in establishing traceability. Anadocs IT Solutions were, therefore, looking for an integrated set of software engineering toolsets.

**IBM Solution implementation:**

Astra, an IBM Business Partner was instrumental in playing a vital role to identify the co-relation between CMMI, and software engineering tools from IBM Rational Software. Additionally, Astra helped Anadocs IT Solutions to identify the right tools for each knowledge area, with due consideration for the best fit and integration capabilities. Tools identified were: IBM Rational RequisitePro®, IBM Rational Software Architect®, IBM Rational Functional Tester® and IBM Rational ClearQuest®. Astra provided the client with a real time view & best practices and integration through jumpstart training.

**Benefits:**

- Bi-directional traceability
- Impact analysis, configuration and change management
- Test automation leading to CMMI without excessive documentation



CCS Technologies was looking for a software engineering toolset spanning requirements gathering, analysis & design and testing. Astra, an IBM Business Partner helped them identify the right set of tools and mentored them to the required level of expertise in using these tools for their business.



**Client Background:**

CCS Technologies (P) Ltd. is an ISO 9000-2001 certified Software Development & Services company in South India. CCS Technologies is also an ISV partner with IBM. They offer SAP Solutions/Offshore Maintenance/Integration, Enterprise Solutions /EAI/ EIP/ e-Commerce, Knowledge Process Outsourcing (KPO) and Media-Print-Publishing Solutions.

**Business Need:**

Managing development and delivery distributed with teams spread across many sites with frequent deliveries was a formidable task. CCS Technologies (P) Ltd was looking for configurable process supportive toolset integration across specializations like requirements gathering, design and testing.

**IBM Solution implementation:**

IBM Rational RequisitePro® IBM Rational Rose/XDE® IBM Rational TestManager® and IBM Rational Robot® were identified as software engineering tools supported by the configurable process framework IBM Rational Unified Process. The development team was given jumpstart training into basic concepts, approaches and tools for requirements, analysis, design and testing. Subsequently, onsite and offline support on tool usage and implementation was extended to make sure that the team was able to work on these independently.

**Benefits:**

- Early risk assessment and mitigation, transparency and control on deliverables with periodic reviews with the participation of customers
- Development and delivery across many sites with standard and consistent practices across projects
- Repeatability
- Software quality tracking
- Control of cost, schedule & functionality



IBS with a team of more than 150 developers working in Java & J2EE applications required to manage frequent changes to a large volume of code base being worked on by a large development team. This formidable challenge was addressed by change and configuration management based on Unified Change Management using IBM Rational ClearCase®. Transitioning challenges to the new system, without affecting routine work, was resolved by software engineering services from Astra, an IBM Business Partner.



**Client Background:**

IBS is a multi-locational CMMI Level 5 and PCMM Level 5 company, with development centers in Trivandrum and Kochi, with a staff strength of more than 1200 people. The company specializes in Airline operations, Airport management, Cargo and Logistics, Oil and Gas Logistics, Transportation and Travel and Cruise.

**Business Need:**

The existing version control system using Microsoft Visual Source Safe could not address challenges of managing on-going product development, catering to on going demands of changes, with a large team of developers working large code base. Undertaking simultaneous changes for product customization for multiple customers, addressing demand for new features and enhancements, and bug fixes to support existing customers was a formidable challenge. This was all the more complex considering that the development team was distributed across Trivandrum and Cochin.

Again, transition was extremely dangerous at that point in time as products were in use by different customers and many changes were in progress under high delivery pressure. Transition was critical but that transition was required to be done with least disturbance to the development work.

**IBM Solution implementation:**

Unified Change Management was identified as critical to solving the problem of managing changes in such an environment. A minimal number of IBM Rational ClearCase® licenses were purchased. These softwares were installed and files from Microsoft Visual Source Safe® were migrated to IBM Rational ClearCase®. It was then extended with use of IBM Rational ClearCase Multisite®. Developers were trained on usage of the tool and Administrators were trained on administration of the tool. As a confidence building measure, services continued with mentoring and handholding services for a one month period, gradually disconnecting to ensure knowledge transfer and smooth transition.

**Benefits:**

- Parallel development across locations
- Management of development and integration streams
- Effective change proposition from one stream to another
- Automated build process including reuse of ANT build scripts and establishing traceability between change request and change set



IBS' product suite of Java/J2EE applications consisted of rich and sophisticated user interface with custom controls that required intensive testing to be performed. Due to the degree of customization, test automation became a formidable challenge.

Astra, an IBM Business Partner, worked closely with the customer over four years and helped them in identifying the right tools, proof of concept solution, training, mentoring, scripting and supply of trained manpower. IBM Rational Functional Tester® was identified as the test automation tool as it provided a powerful solution with a combination of ScriptAssure®, regular expressions and Java programming language.



**Client Background:**

IBS is a multi-locational CMMI Level 5 and PCMM Level 5 company, with development centers in Trivandrum and Kochi, with a staff strength of more than 1200 people. The company specializes in Airline operations, Airport management, Cargo and Logistics, Oil and Gas Logistics, Transportation and Travel and Cruise.

**Business Need:**

As an organization with an inherent quality focus, as indicated by its CMMI Level 5 and PCMM Level 5 status, IBS required intensive testing to be performed ensuring uncompromised test coverage. Accomplishing this was extremely difficult manually considering the hectic pace of change.

On the other hand, their applications had a lot of custom controls on graphical user interface which are not recognized by most commercial testing tools. Also, the controls were created dynamically which posed additional challenges in their recognition. For instance, control representing a flight or a ticket was named with a suffix of Flight or Ticket number. The commercial tools using name, caption or location failed to recognize the control consistently.

**IBM Solution implementation:**

Their products being Java/J2EE applications had very rich and sophisticated user interface with custom controls; most of the software testing tools were not able to work with them. Also, the controls were created dynamically which posed additional challenges in their recognition. Further, user interface underwent significant changes frequently during the development cycles. These made test automation a formidable challenge.

Astra, an IBM Business Partner, worked closely with the customer over four years, and helped the customer in identification of tool. With the problems mentioned above, the choice of tool was narrowed down to IBM Rational Functional Tester (It was called RobotJ when it was initially purchased). Additionally, Astra provided training and helped the customer come out with proof of concept work. Again, getting volumes of scripts made considering the number of screens and controls involved was a big challenge. Astra provided trained manpower to get the initial set of scripts. Consultants and tool specialists were available all along the exercise to troubleshoot, and resolve in time, typical test automation issues and initial irritants like slow playback and inconsistency in playback.

**Benefits:**

- Nearly 80 percentile of test cases were automated providing unprecedented test coverage
- The test suite is being regularly used for regression testing for over 20 versions now



Information Kerala Mission is a flagship e-Governance project initiated by Government of Kerala. Requirements for the project was based on practices set by numerous Government orders and amendments, and localized practices at various Government offices. Even formulating, documenting requirements to cater to a scenario such that requirements could be analyzed at varying levels of details was a formidable task. Business modeling using Use Case based approach was adopted and IBM Rational RequisitePro® and IBM Rational Rose® were used as software engineering tools for support. This helped in retaining the big picture as well as local variations without affecting one another.



**Client Background:**

Information Kerala Mission (IKM), formed in June 1999, is the flagship e-Governance project of the Government of Kerala. It is an attempt to strengthen local self-governance through ICT (Information Communication Technologies) applications. It is the largest and most comprehensive local body computerization project in the country. It envisages computerizing and networking the 1215 local self government institutions in Kerala through a phased transformation of the existing systems to new ones. It addresses the entire gamut of issues concerning local body governance, decentralized planning, and local economic development.

**Business Need:**

One of the major challenges faced in this project was to gather, document and reconcile data from various sources like Government orders, amendments and local practices as derived from discussions and interviews. Formulating and documenting requirements was one of the formidable tasks in this project, such that requirements could be analyzed at various levels of details (for example, distribution of pension as per Government orders, subsequent amendments and process followed at local unit) was a formidable task.

**IBM Solution implementation:**

IBM Rational RequisitePro® was identified as a requirement management tool that works with Microsoft Word, and provided analytical capabilities. Government orders and amendments were studied and documented using IBM Rational RequisitePro® and Microsoft Word, permitting analysis at varying level of details.

**Benefits:**

Managing complexity of requirements



As a forerunner and the world's leading provider of plantation management and IT solutions provider, iSmart has established a prestigious roster of customers across 14 countries and over 700 successful installations. Managing quality while software progresses with new enhancements, and addressing specific requests from specific customer was a formidable task. A requirement based testing supported with appropriate level of test automation was adopted.



**Client Background:**

iSmart Business Solutions Private Limited is a wholly owned subsidiary of Zoom Developers, a privately owned international company specializing in major industrial and infrastructure projects. iSmart Business Solutions Private Limited is a forerunner and the world's leading provider of plantation management and IT solutions provider. Commencing operations in 1987, it has over 1100 man-years of experience in software development with over 700 installations in 14 countries. They are a ISO 9001:2000 software development company.

**Business Need:**

As the number of installations increased, managing ongoing improvements in core product, specific customization for individual customers/installations, managing quality as new enhancement requests and bug fixes under tight delivery schedule was a formidable challenge.

**IBM Solution implementation:**

Requirement based testing supported by right level of test automation was adopted as a solution. Requirements were gathered from earlier documents available as well as through discussions. Light modeling was done to help enhance communication from business analyst to designer and tester. IBM Rational RequisitePro® was used for requirements and IBM Rational XDE® was used for modeling. IBM Rational XDE® models were connected to extensive design documentation available in visio and .chm files. A combination of IBM Rational Test Manager® and IBM Rational Robot® was used for test automation. Astra, an IBM Business Partner, supplied manpower to quickly create initial set of scripts and to reduce effort on manual testing.

**Benefits:**

- Measurable test coverage
- Unprecedented level of testing
- Better test coverage, predictable and reproducible test effort





Premier Evolvics were looking for continuous improvement. While the organization had made significant progress on the hardware side, the software aspect required significant improvement and consolidation of development process. Astra, an IBM Business Partner, helped the client identify the right set of tools and mentored them to the required level of expertise in using these tools.



**Client Background:**

Premier Evolvics is a part of the USD 150 million Premier Mills group, Coimbatore, India. Premier commenced operations in 1983, manufacturing products under license from Zellweger Uster AG, Switzerland, and marketing them within India. Since 1996, Premier has been independently developing, manufacturing and marketing its products to the textile industry worldwide.

Premier provides a complete range of solutions for the textile industry to improve Quality and Productivity, focusing on the following distinct areas of manufacturing: Fiber Testing Equipment, Yarn Testing Equipment, Yarn Clearing Systems, On-Line Quality And Production Monitoring Systems (for Spinning & Weaving), and Mill Management Solutions. Premier Evolvics Pvt. Ltd was formerly Premier Polytronics Pvt. Ltd.

**Business Need:**

The client was looking for continuous improvement. While the organization made significant progress on the hardware side, the software aspect required significant improvement and consolidation of development process.

**IBM Solution implementation:**

Astra, an IBM Business Partner, helped them with identifying critical areas and earmarked software engineering tools such as IBM Rational Unified Process®, IBM Rational RequisitePro®, IBM Rational Rose®, IBM Rational TestManager®, IBM Rational Robot®, IBM Rational ClearQuest® and IBM Rational ClearCase®. The development team was given jumpstart training into basic concepts, approaches and tools for requirements, analysis and design and testing. Subsequently, onsite and offline support on tool usage and implementation was extended to make sure that the team was able to work on these independently.

**Benefits:**

- Unprecedented level of testing, control on requirements and change
- Well established software development process
- Software development team enabled with state of art tools

# SunTec

Suntec's products were primarily Java/J2EE applications, with custom browser made using Internet Explorer components. User interface look and feel changed heavily depending on the client needs. IBM Rational Robot® was identified as test automation tool as it provided a powerful solution with a combination of Object Oriented recording and SQA Basic® as scripting language. Astra, an IBM Business Partner, worked closely with the client to identify tools, provided proof of concept solution and also provided training, mentoring, scripting and supply of trained manpower.



## **Client Background:**

SunTec Business Solutions is a software product company,<sup>1</sup> specializing in Relationship Based Pricing and Centralized Billing. Founded in 1990, SunTec became the world's first CMMI Level 5 billing company in 2004. SunTec is amongst the leading vendors of transaction pricing and billing solutions for domains such as Telecommunications, Media and Entertainment, Banking and Financial Services<sup>1</sup>, and Utilities with development centers in Trivandrum and Cochin.

## **Business Need:**

Suntec has an inherent quality focus, and enjoys CMMI Level 5 and ISO 27001 status. Their products were required to do intensive testing to ensure uncompromised test coverage. Their software is highly configurable and customizable with a highly configurable user interface, to cater to needs of various industries. Doing this consistently and regularly was extremely difficult. Testers were trained on Mercury WinRunner® and had worked with the same for testing this product for more than a year. But the customer was not able to attain desirable level of test automation. This was because user interface was not a standard browser but rather a custom one made using Internet Explorer components. Commercial tools had difficulty in working with user interface controls, resulting in inconsistent playback. This affected test script resilience and hence defeated the very purpose. Knowledge of testing to be performed was limited to a few hands. These were very senior, critical resources and many of them had other responsibilities as well. On the other hand, releasing products without extensive testing, with such variation each time was too risky.

## **IBM Solution Implementation:**

Astra, an IBM Business Partner, worked closely with the client to identify the right tool that would be easy to learn and provide significant script resilience. IBM Rational Robot® was chosen as the right tool while SQABasic® as scripting language made learning easy and its object oriented capabilities provided good test script resilience. Astra provided initial training and subsequently extended mentoring services to guide on specific usage of tools and resolve major technical issues. Further, Astra provided manpower to get initial set of scripts and make new ones as functionalities were added.

## **Benefits:**

The client has been using IBM Rational Robot® for over three years now and the testing team is enhanced, with both manual and automated testing done in-house.

## UNION SWITCH & SIGNAL

Union Switch & Signal Inc's software development unit in Bangalore wanted to adopt software engineering best practices and get CMMI certified. Consulting services was provided by Astra, an IBM Business Partner, that spanned analysis and design, estimation, testing, change and configuration management, tool support, and customization of IEEE and RUP templates. This helped in getting the client, CMMI Level 3 certified.



### **Client Background:**

George Westinghouse founded Union Switch & Signal in 1881. Union Switch & Signal is a wholly-owned operating subsidiary of Ansaldo Signal N.V., a Netherlands holding company. Ansaldo Signal N.V. is owned by Finmeccanica S.p.A., one of Italy's industrial holding companies with global operations in the aerospace, defense, energy, transportation and automation sectors.

Union Switch and Signal Inc is a leader in the design, manufacture and service of signaling, automation and control equipment and systems for the railroad and mass transit industries worldwide.

### **Business Need:**

A small software development unit wanted to adopt software engineering best practices as part of its endeavor for continuous improvement and CMMI and as a benchmark standard. Doing this without integrated software engineering toolset leads to excessive documentation and islands of redundant information.

However, achieving this required continuous mentoring with experts with specialized knowledge of CMMI, IEEE standards, and software engineering best practices and toolsets.

### **IBM Solution implementation:**

Initial training on object oriented analysis and design, software testing concepts and techniques, software size, cost and effort estimation using use case point, and software change and configuration management was provided, along with support on usage of related IBM Rational tools.

### **Benefits:**

- CMMI level 3 was attained
- Confidence levels of the tool users internally was instrumental in the organization securing more projects

As the Innovator's Innovator<sup>®</sup>, IBM is committed to helping companies thrive in an era of intense competitive pressure from all corners of the globe. So, when we see our clients changing the playing field and driving real business success, we want to give them a chance to spread the word.

It's a new business era. Everyone's talking innovation. It's no longer enough to offer unique products and services - now you have to create competitive advantage by doing business in a whole new way. You've got to be special.

Clients referred to in this book have demonstrated the special capabilities that make their organisations stand out from the crowd. These special IBM clients have leveraged IBM Rational software solutions and products for business innovation and competitive advantage. These clients are innovators and leaders and we are proud to share their success.

To participate in or learn more about becoming a referred client, write to Jaya Mahadevan at [mjayalak@in.ibm.com](mailto:mjayalak@in.ibm.com)

