

Software Development and Delivery Outsourcing

Case studies



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Abstract

Verax Systems is an international software house provider of professional services, specializing in IT solutions for the telecommunications, banking and enterprise markets. Since its incorporation, Verax Systems has successfully provided services and delivered numerous projects on five continents.

Verax Systems provides a wide range of **software development and delivery outsourcing**, including:

- Software development projects.
- Product outsourcing.
- Technical consulting.

This paper contains a few case studies illustrating critical aspects of successful project delivery using external software delivery partner as well as typical challenges and pitfalls.

For more information on Verax Systems' professional service portfolio please visit us at <http://www.veraxsystems.com/en/services>.

1. Case study #1 – Global Professional Services

1.1. About the customer

The Customer is a global software vendor and a deployment services provider active in the field of telecommunications. The company also offers consulting services providing strategic advice, systems integration and outsourcing solutions in areas of expertise such as OSS/BSS and enterprise application integration. The target market is exclusively comprised of tier-1 telecommunications operators (i.e. the largest ones): the customer has provided deployment for over 20 leading global networks operators.

1.2. Needs

The client had a number of complex deployments worldwide, and needed highly skilled IT and telecoms resources on an as needed basis, for different stages of the projects. Verax Systems was selected as the partner company because of its ability able to deliver the resources on demand at a reasonable cost.

1.3. Scope of services provided

The scope of services provided by Verax Systems and associated responsibilities grew over time: from simple tasks (such as to-specification interface implementation) to more complex ones (e.g. high level solution design).

1.4. Business objectives for the customer

The main objective of the Customer was to establish a solid and cost effective worldwide delivery partner for the product. The most important factor for the Customer was a price/performance value, not solely pricing. Verax Systems was chosen as a vendor due to their ability to perform delegated work effectively, solely on the basis of high level guidance and provided input such as procedures, documents, guidelines, etc. The majority of the work is carried out at Verax Systems' premises in Poland (due to cost effectiveness). An important winning factor is the ability of Verax Systems' personnel to travel worldwide.

1.5. Course of engagement

The engagement started in 2004 and is still ongoing. Initial project staff members were interviewed by the Customer over the phone. In the beginning the first three engineers were deployed to Customer premises for training and internship. As these engineers became familiar with the Customer's company, culture, product goals and software, they became productive very quickly. After returning they became the core members of the project team.

1.6. Staff organization

The project is structured internally in Verax Systems according to their own principles and has an Account Manager, a Project (Team) Leader, a Technical Leader and a Project Manager responsible for ensuring correctness in customer communication and resource utilization, and for making sure that all the issues that can be dealt with locally are resolved.

Externally, team members are allocated to projects and fit into the Customer's organization chart.

Contractually, the project team is divided into:

- **A core, permanent team** consisting of the most highly-skilled personnel, familiar with the Customer's product and service portfolio as well as internal processes and procedures. The key role of this team is to provide continuity, train ad-hoc resources and retain project knowledge.
- **Ad-hoc resources** are employees prepared to perform less complex tasks such as testing or implementation according to prepared specifications. The number of ad-hoc resources varies over time, but in general a 20 member team consisting of 10 core members and 10 ad-hoc members is maintained.

The entire engagement was executed under a framework services agreement with separate purchase orders for team members or fixed price projects.

1.7. Training

The first project started when the Customer was expanding and growing rapidly and most of the Customer's staff was focused on core activity with little time left to conduct formal training. Because of this, Verax System's staff had to work independently, and through time were granted a degree of autonomy by the customer. In the absence of formal training being provided, Verax developed it's own training collateral in order to deliver effective and productive staff in as short a time frame as possible.

1.8. Infrastructure

Network infrastructure used in the project evolved from individual VPN clients on workstations to a permanent VPN tunnel through the Internet (a leased line option was evaluated, however it performed only slightly better while being much more expensive). Workstations used by the project team were connected to a separate VLAN in order to provide maximum security. PCs were upgraded to 4GB of RAM and 19" LCD panels (a standard now at Verax Systems) in order to meet compilation challenges.

As some problems were undetected on a single-host configuration, Verax Systems built a local SUN Solaris cluster – along with numerous databases, VM*Ware images and a test lab. This allows us to ensure that only fully tested software of the highest quality is delivered.

1.9. Challenges

Some of the key challenges in this project included:

- Changes in the Verax Systems Security Policy in accordance with the Customer's requirements (additional requirements on firewalls, LAN separation, alarm system and others). The new security policy is BS-7799 standard compliant, and has been audited and approved by the Customer.
- Establishing proper communication culture: one-to-one communication, frequent team meetings, promoting use of voice-over-chat communication, and an e-mail communication ban (i.e. e-mail use only when necessary).

1.10. Staff rotation

Staff rotation is one of the most important KPIs (Key Performance Indicators) for any software project. Keeping it low is even more important in the case of outsourcing. It is crucial to establish a shadow team in case of staff rotation. As the project's responsibilities grew over time Verax Systems prepared individual personal development tracks to promote employees and support their professional careers. Although staff rotation is under 5% a year, Verax Systems is prepared to provide replacement for departing staff members in a relatively short time, absorbing costs of training and internship.

1.11. Results

The business model of outsourcing services offered by Verax Systems offers our Customer maximum benefits. A dedicated team of engineers is assigned to each project to provide long-term or short-term support to specific Customer requirements. Our attitude has resulted in 2 years of on-going engagement and services delivered in the Americas, EMEA and APAC regions. Our successfully performed projects gave us the opportunity to evolve from implementation to High-Level-Design services and to become a critical outsourcing services supplier.

2. Case study #2 – Software Development Services

2.1. Customer

The Customer is an independent software vendor offering advanced billing and customer-care solutions for vertical markets. The Customer has formed strong relationship with IBM and develops software mostly using the WebSphere platform and deploys on various ranges of IBM hardware from System P running AIX to mainframes. The Customer is not only a software vendor, but also provides hosting and support services.

2.2. Scope of services provided

Verax Systems provides the Customer with outsourcing services, related to software development of the Customer's products.

2.3. Business objectives for the customer

The Customer wanted to find a partner who could significantly augment its software development capabilities – not only to provide manpower, but also to provide added value, such as input on design, best practices, tools, etc. The Customer was also interested in cost reductions, while holding or improving quality levels. Competence in IBM technology was crucial, and experience in the fields of large databases and massive processing of billing data were an ideal fit.

2.4. Course of engagement

The engagement started in 2006 and is still ongoing. The initial contract team has been augmented with fixed-price satellite projects for which Verax Systems is responsible from design to implementation to maintenance.

2.5. Staff organization

The project is structured internally at Verax Systems according to our own procedures, i.e. each project has a responsible Account Manager, a Project (Team) Leader, a Technical Leader and a Project Manager. Such a set-up allows for resolving issues locally without Customer involvement, as well as high resource utilization and a clear division of responsibilities. An important challenge is to coordinate communication between the Customer and two Verax Systems offices in Poland, separated by about 300 km, which are involved in projects. Team members are also allocated to projects and fit into the Customer's organization chart.

The project team is divided into: a core, permanent team responsible for the project performance and ad-hoc resources which can be assigned to projects according to project needs.

New team members are suggested by Verax Systems, and the Customer interviews each candidate over a video-conference.

The entire engagement was executed under a framework services agreement with separate purchase orders for team members or fixed price projects.

2.6. Training

Verax Systems is responsible for training new candidates and getting them up to speed on the projects. The initial team has been trained on the Customer's premises for about two months. New resources are given training outside Verax System's premises as befitting particular project needs.

2.7. Infrastructure

This included a dedicated point-to-point 4mbit leased line between offices in Poland and Ireland. Workstations used by the project team are built entirely to the Customer's specifications, using Customer-provided packages. A local source code server proxy is used in order to allow engineers to work more productively.

In order to meet communication challenges member of the project team use video conferencing facilities extensively.

In due course of the project, an internal chat server has been installed, yielding further productivity.

2.8. Challenges

Key project challenges embrace:

- Infrastructure setup as the workstations had to be prepared using the Customers packages.
- Proper local management including good coordination of the team in two separated offices in Poland and cooperation with the Customer's project members in the United Kingdom.
- Establishing proper communication culture: one-to-one communication, frequent team meetings, promoting use of voice-over-chat communication, and an e-mail communication ban (i.e. e-mail use only when necessary).

2.9. Results

The cutting-edge services provided by Verax Systems delivered the following benefits:

- Stable on-going engagement.
- Excellent quality of delivered services helped the Customer improve its market share and deliver solutions.
- Low cost helped the Customer to gain an edge and trim its R&D budget at the same time.
- Successfully delivered solutions from simple implementation to complex design tasks made Verax Systems a key supplier.
- High levels of security, and proper team management and infrastructure setup as an advantage of cooperation with Verax Systems.

3. Case study #3 – Personnel Leasing

3.1. Customer

The Customer is a global software vendor and a deployment services provider for telecommunications in operation for over 10 years. The company specializes in event processing and transaction management for global telecom operations. Customer solutions are deployed on high-end multi-processor servers or in a cluster environment.

3.2. Scope of services provided

The scope of services provided by Verax Systems includes providing personnel augmenting Client's professional services. The main difference compared to other engagements is that the Customer uses an **agile-based project approach** – therefore teams need to be built quickly and all members have to be designers, implementers and testers.

3.3. Business objectives for the customer

The main objective of the Customer was to establish a solid, yet cost effective team of engineers to help the Customer face its professional service challenges. The majority of the work is carried out at Verax Systems' premises in Poland (due to cost effectiveness and good transport connections with the United Kingdom and Ireland), however a moderate amount of travel is also required. The key requirement for Verax Systems was its ability to prepare teams quickly (due to the agile approach used). An important factor was knowledge of Telco networks gained by Verax Systems' engineers, which was essential for the Customer.

3.4. Course of engagement

The engagement started two years ago and is still ongoing. The engagement embraces outsourcing services delivered in short 3-month long project modes.

3.5. Staff organization

As any project is conducted according to agile methodology, teams of engineers are established and allocated to projects and fit into the Customer's organization chart for each project. Each project is a maximum of 3-months long, and labour-intensive.

3.6. Training

The Customer developed and delivered formal trainings for our team of engineers. A few of them were sent to the Customer's premises for an internship. They then developed training sets internally, in order to prepare new employees to become effective quickly in the future.

3.7. Infrastructure

Infrastructure established for the projects' purpose embrace laptops (as work is carried out from many locations) with individual VPN clients to make engineers mobile and easily accessible. Projects' members have direct access to their operator's lab by using hardware tokens. One of the infrastructure challenges was to secure laptop data through encrypted partitions; the other was to prioritize VPN traffic on Verax Systems' Internet connection so terminal work was quick and efficient. As a result, a separate, dedicated outgoing Internet link has been used for the project.

3.8. Challenges

Some key challenges that Verax Systems' team has had to face include:

- Challenging personnel requirements depending on project needs; each project requires fast project team formation.
- Correct skills training according to project needs as required by the Customer.
- Ability to work in a highly distributed environment, as each project is run internationally.
- Establishing proper communication culture: one-to-one communication, frequent team meetings, promoting use of voice-over-chat communication, and an e-mail communication ban (i.e. e-mail use only when necessary).

3.9. Results

Highly skilled staff and fast response to the Customer's needs as well as the important factors of cooperation and quality of outsourcing services delivered by Verax Systems resulted in:

- On-going engagement for over two years.
- Services provided in Americas and EMEA region.
- Successfully delivered projects.

4. Summary

Verax Systems is an experienced outsourcing partner with the following key advantages:

- **Experience** – Verax Systems is a spin off from a public US company (Vertel, formerly Retix) established in 2003 (core team from 1998).
- **Proven engineering workforce** – well-balanced growth of skilled, experienced and dedicated engineers and consultants (over 60 permanent in January 2010), and a substantial, proven network of subcontractors.
- **Availability** – offices in England, Poland, Ireland and Germany, good transport connections worldwide.
- **Stable, skilled team** – the continuity of team members helps to begin projects faster, and ensure the protection of investments and long-term relationships.
- **Standards compliance** – the team of professionals are aware of the Customer's standards and procedures.
- **Advanced communication facilities** – video-conferencing, dedicated leased lines, permanent VPN tunnels.
- **Security** – security policy to enforce protection of sensitive customer data (such as call data records).
- **Technical and management capabilities** from design to implementation and SLA-based support.

To learn more about our services and products, please contact one of our offices or visit us on the Internet at www.veraxsystems.com/en.