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Delivering Multiple Sites and Time Zones Projects:
A Case Study in the Telecom Industry

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A significant number of outsourced projects fail because of complexities associated with multiple sites and time zones. Companies struggle with even two-site projects, so many of them give up and begin to believe that projects spanning multiple sites and time zones do not work. Imagine a project spread over five sites, each in a different country and different time zone, where cultural differences add to the complexity.

In this case study, we will discuss how the Alcatel-Lucent Atrium Wireless Call Server (WCS) global team successfully delivered multiple site and time zone projects.

The biggest challenge was to integrate teams from five different cultures and in five different time zones. Individual sites tried to take care of their local interests first, resulting in some inter-site politics. Cultural differences caused major challenges. With each new site, inter-site communication links multiplied and cross-site dependencies increased. In multiple time zones environment, overlap requirements with other sites blurred lines between home and office life. Growing the India and China teams proved to be challenging because of specific skills

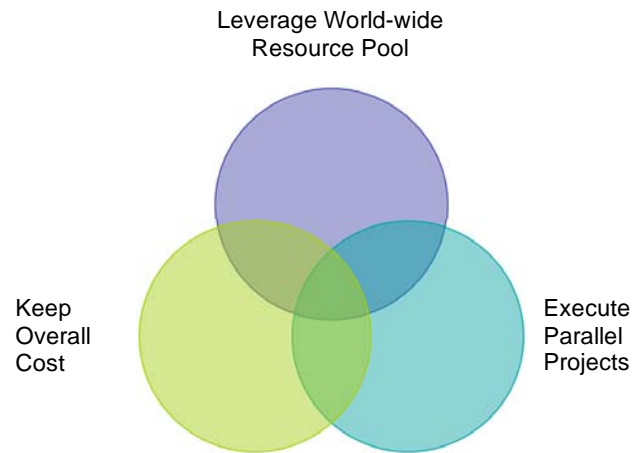


Figure 1: Strategic Business Objectives

requirements. Keeping new team members’ learning curve small and keeping attrition low was also challenging.

This case study proves that the right strategy, an experienced team, proper execution, and the right attitude can make multiple site and time zone projects successful.

Business Objectives

After Alcatel bought Spatial Wireless, an startup in a telecom industry, the Atrium Wireless Call Server management team was challenged to meet these key business objectives:

- Keep overall cost low
- Leverage Alcatel’s world-wide resource pool
- Execute multiple projects in parallel (and speed up deliveries to meet Alcatel customers’ requirements all over the world)

“I knew business objectives were challenging, but I also knew that with hundreds of years experience in global team environments, my team will meet these objectives”, says Jyoti Boppana, Senior Director, Mobile Next-generation Networks, Alcatel-Lucent.

Project Information

Initially, teams in the USA and India were tasked to deliver a WCS release 3.1 project. Later, three more sites in China, France and Russia were added. Jointly, these teams delivered seven WCS releases including five of them in parallel. During this period, the India team grew from twenty-five members to one hundred and seventy five. China, France, and Russia teams grew to one hundred and fifty, thirty, and twenty-five members, respectively.

Site	Team Size
USA	11
India	175
China	150
France	30
Russia	25

Table 1: Sites and Team Size

Table 2 describes releases, their duration, and involved sites.

This was not a traditional outsource model where sites have customer – vendor relationships. In a traditional outsource model, customers can drive the outsourced partner team. We are a global team that is tasked to deliver projects in a

Project	Duration	Sites Involved
R3.1	01/05 – 12/05	USA, India
R4.0	08/05 – 12/06	USA, India, China, France
R4.1	04/06 – 05/07	USA, India, China, France, Rusia
R4.2	04/07 – 01/08	USA, India, China, France, Rusia
R4.21	07/07 – 02/08	USA, India, China, France, Rusia
R4.40	11/07 – Present	USA, India, China, France, Rusia
R4.49	04/08 – Present	USA, India, China, France, Rusia

Table 2: Projects Information

collaborative environment. We were aware that we would run into different issues compared to issues in a traditional outsourcing environment.

We knew building “One Team” and delivering multiple parallel projects involving five sites, five time zones, and five diverse cultures would not be easy.

Strategy

The Wireless Call Server management team identified these strategies to meet the key business objectives:

- Use futuristic team setup
- Keep day-to-day management close to teams
- Leverage time zones

“We were aware that we will need to make adjustments to our strategies when we run into challenges. We were ready and did that,” says Jyoti Boppana, Senior Director, Mobile Next-generation Networks, Alcatel-Lucent.

Definitions

Area Owner is a technical expert who is responsible for providing technical leadership to specific area teams across sites; conduct weekly meetings with them; help identify and resolve issues; and prioritize defects. He is also responsible to help project managers with efficient use of resources and effective resolutions of issues. Examples of area include Call Processing, Mobility Management, and Billing.

Feature Lead is a technical expert who is responsible for a delivering a specific feature. He works with teams from different areas and sites that are responsible to delivery some aspect of that feature.

Futuristic Team Structure is a unique team structure where only essential functions, whole or part, are kept at high cost countries and rest are moved to low cost country.

Local Project Manager is responsible for managing a release team in a particular site.

Overall Project Manager is responsible to deliver a release.

To meet the objective to *Keep Overall Cost Low*, a unique and futuristic team structure was set up where only essential functions are kept at high-cost countries and other functions are moved to low-cost countries. We kept architecture team in the USA to interact with other front-end

teams and vendors in the USA, while building development and testing teams in India to keep costs low. Later, additional sites were added in China, France and Russia to meet the objective to *Leverage Alcatel's world-wide resource pool*. To reduce cross-site dependencies, project management functions were kept close to the development and testing teams as opposed to keeping project management function centralized.

Orchestration

Growing teams in India, China, France, Russia

Growing the India team from twenty-five to one hundred and seventy five members proved to be a challenging task because of specific domain requirements and complex technology experience requirements. We overcame this obstacle by hiring a mix of experienced members and new graduates and leveraging the existing team members, who had experience in the WCS, to train new team members. We adopted the strategy of becoming bottom heavy by hiring a high number of new graduates. The learning curve for the new graduates was long, but after initial challenges, this strategy paid off as our productivity increased after six months. It also helped keep attrition low.

Futuristic Team Setup and Area Owner Concept

Issues with futuristic team setup

We quickly figure out that the futuristic team setup was working well among some sites, but not all sites. Some sites did not adapt well to the overall program causing technical and management problems. Also, we realized that technical leadership should be spread across sites and should not be concentrated just in the USA. We groomed senior members at other sites into area owner and technical leadership roles.

Area Owner

To address the following issues, we implemented an overlaid across-site Area Owner concept:

- All the teams not working closely with architecture team
- Lack of coordination among area teams across sites
- Project managers not able to coordinate complex issues

We assigned one senior member from one of the sites to each area as area owner. The area owner is responsible for providing technical guidance to area teams across sites; conducts weekly meetings with the sites area teams; helps identify and resolve issues, and prioritizes defects. The Area Owner concept helped area teams with efficient use of resource and effective resolution of issues.

The technical teams worked more comfortably with the area owners. They thought discussing technical issues with area owners was much more effective and efficient compared to project managers who did not have technical expertise.

Project Management Organizations

Our *Keep day-to-day management close to team* strategy did not work well in the beginning because of confusion over responsibilities. The overall project manager lacked authority and technical knowledge to

challenge local project managers and site teams.

At times, the overall project manager had to take at face value whatever local managers said. Local project managers did not follow the overall direction.

Decision making could not be enforced.

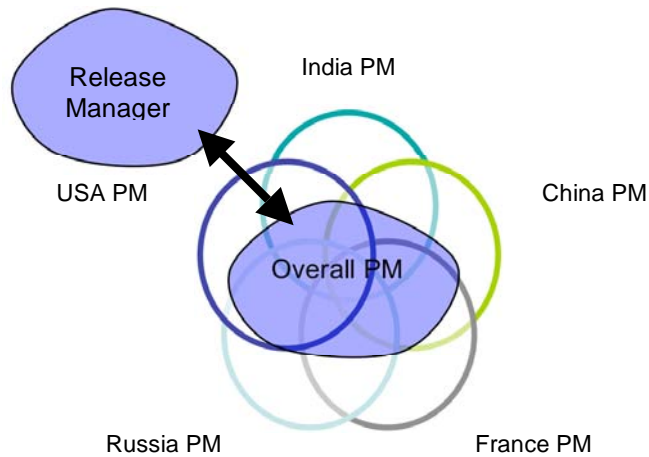


Figure 2: Project Management Organization

We anticipated these conflicts because we knew conflicts are inevitable with dual authority. We constructively channeled conflicts by taking positive steps to develop teamwork, implementing a training program, and arranging project managers’ travels to sites to resolve problems. The overall project manager used a “chain of command” to escalate issues and avoided direct conflicts with local managers. We also leveraged area owners to help resolve complex issues.

Project managers did not conduct regular project management meetings to discuss team building, arranging cross-team social activities. They did not discuss project management tools

issues, and so on. The overall project manager did not report some site issues in the weekly meeting because of a lack of clarity and understanding. Also, there was a weak link to release management.

“The common picture of the project manager in a matrix organization is of a frustrated diplomat struggling to cajole the functional departments into performing the work on schedule and within budget.”

Project Monitoring and Control

We started with weekly project status meetings.

Most of other communication was via emails and ad-hoc discussions. At times it took weeks before we could resolve an issue. Using emails as the main communication mechanism among sites proved ineffective because it took multiple emails exchanged over days before issues were resolved. Also, the writing style and language background of the different cultures made email communications less effective. Quickly it was clear we needed some other approach. We started multiple daily conference calls, each with a specific focus. In addition to daily conference calls, we leveraged Instant Messengers, NetMeeting and Collaboration site to improve communication.

We ran into issues with daily conference calls also. There was zero hours of regular work-day overlap across all sites. No matter when we scheduled calls, time was inconvenient for at least two sites. To address this issue we spread the burden of inconvenient times to all the sites.

We learned to cope with conference call quality issues, including noise, latency, frequently dropped calls, background noise of family members and dogs, and so on.

The daily meetings focused more on the technical aspects of the project and were run efficiently; however, we had no platform for project managers to discuss day-to-day project management issues. The only platform for project managers was to discuss project management issues during a weekly call used to report status and not earmarked for discussing project management issues. Also, the weekly status conference call was supposed to focus on the technical aspects of the project.

“In a global team environment, everything should be in writing. No oral decisions. Period,” says Marie-Pierre Jullien, Project Manager, Mobile Next-generation Networks, Alcatel-Lucent, France.

It was hard to reconcile activities across sites. We started by using MS Project, but found it ineffective and used Dashboards built using the powerful programming languages of Excel spreadsheets. Spreadsheets were a big part of status tracking. We leveraged them for defect, risk/issues/actions, and feature list tracking. We tracked the top ten risks on a daily basis.

Handling Time Zones

At first, attending daily calls blurred lines between home and work for most team members. Later, we spread the burden of inconvenient time across all sites.

Also, the time differences caused productivity to drop as one site’s team members had to wait for another site’s team members to resolve issues. To address this issue, we built expertise locally at each site, reducing inter-site dependencies. We improved productivity by leveraging time zones to quickly address critical issues as one team handed issues to another before going home, and would take over the next morning.

“I can relate to multiple sites and time zones issues, especially regarding the 6:00 AM to 11:00 PM workday. In all my projects, I have worked long and strange hours”, says Rahul Gupta, PMP, Technical Project Manager, Mobile Next-generation Networks, Alcatel-Lucent, India.

Sites Management Priorities

We realized that many multi-site issues were really caused by dotted line relationship of engineering project management and overall project manager to site management and local project managers. Different priorities of site managers resulted in some inter-site politics. Management level conflicts were more difficult to address than technical issues. At times, local project managers got conflicting direction from site managers, engineering manager, and overall project manager.

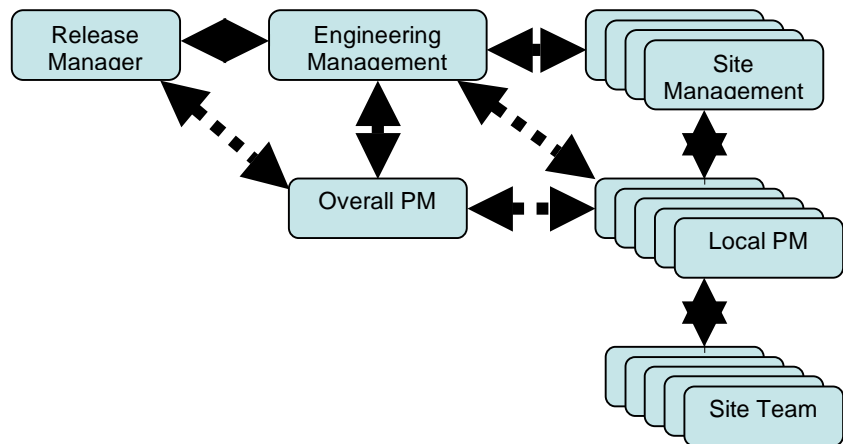


Figure 3: Complex Matrix Organization

Local interests of sites sometimes surfaced where sites did not share human and capital resources effectively, but kept them idle expecting they would need these resources in the

future. Local interests were related to local customer interests, and site management and team member interests. We put an Online Resource Assignment System in place to allow any site to grab resources if they are not assigned. Remote access to lab resources was built to allow other sites to use resources.

At times, sites started their own sub-projects, implementing their own features without involving other sites. This caused duplicate work and inconsistencies. Inter-site issues, specifically with cultural differences, were something that needed management; otherwise, this issue could become the main one causing a project to fail.

Inter-site politics was managed effectively by giving each site equal responsibilities, having site managers and project managers travel to other sites, and making sure each site was treated with respect. Senior management envisioned that taking care of an individual site's interests is important.

Working Together (Blending Teams)

Another big challenge was to integrate teams from five cultures and in five time zones. With each new site, inter-site communication links multiplied. Existing sites did not support new sites. Pointing fingers to other sites started to become common as issues were detected.

“In global team environment, you can not achieve control. But you could achieve results by giving clear responsibilities”, says Arun S. Bharatam, Manager, Mobile Next-generation Networks, Alcatel-Lucent, USA.

Our senior management team, who had significant experience with outsourced projects, knew it would not be an easy task. We built good relationship with each site, helping them working together, involving each site in decision making. Travel helped build rapport among team members. We filtered noise and focused only on the real issues. Also, we encouraged team members to not blame other sites but work together.

Different sites go for multiple-week vacations at different times each year. About 20-25% of the time one or more sites are on vacation for multiple weeks. Initially, teams that have to fill in felt stressed, and the quality of support was poor as all the sites did not have expertise in all the

areas. As we built local expertise in all the areas, other teams supported activities of the vacationing site with ease. Also, area owners made sure that takeover and handover was smooth.

Risk Management

From great distances the overall project manager had to rely on the local project managers to prepare plans, manage risk, and report project status. At times, local project managers did not share all the issues, instead preferring to address them locally. The overall project manager was not informed of risks already impacting the project and did not receive insight into future risks. Many times, the project was already impacted and there was no room to take corrective actions by the time the overall project manager was informed.

Area owners, with their in-depth understanding of areas and dependencies on other areas, helped detect and address these risks. Also, we used an iterative approach to divide big projects into multiple smaller projects. Each project had a definite start and stop that represented discreet phases of the project. We incorporated *tollgates* and conducted extensive reviews before allowing transition to the next phase of the project.

Cultural Differences

Our team already had hundreds of years of experience working with global teams. We conducted cross-culture communications training. Management watched for not only obvious problems, but problems that may arise because of communication gaps. We knew cultural issues, if not addressed in timely fashion, may put our project in jeopardy. Sensitivity to social taboo was also important. We knew many cultures tolerate certain actions as long as they understand it is not intentional. The Indian and Chinese cultures are even too polite to tell you that you have committed a social blunder.

Infrastructure across-sites

We focused on providing seamless access to information to all the sites and replicated support functions at all the sites, enabling 24-hour support.

Subtle Points

We noticed that we call other site team members only when we have issues to discuss.

Realizing this, we promoted an environment where senior team members once in a while call other site team members just to say “how are you?” or “how can I help you?”

Also, to promote free information flow, management encouraged team members to report bad news as well as good. Teams shared issues in a timely fashion.

Conclusion

As we added more sites and more team members, the importance of enforcing extensive formal reviews and establishing a single point of contact for each area became evident. Creating the Area Owner position, responsible for overall quality of respective areas across sites and across projects became necessary.

In every new project we focused on addressing the top one or two challenges from the previous project. Following the *Kaizen* principles, our efficiency and effectivity continued to improve.

The team has delivered multiple projects on time and within budget. We learned many lessons over all four years.

REFERENCE:

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KEYWORDS:

global team, multiple sites, multiple time zones, cultural differences, communication issues.

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