

MAKE

YOUR

TELE-TEAM

TELE-TEAM

WORK

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Your company has team members in remote locations. Perhaps people with necessary skills aren't available locally, a key team member moved away from headquarters due to family obligations, or energy costs led management to ask people with long commutes to work from home. For whatever reason, your team now has one or more telecommuters—maybe you are one.

Common wisdom is that having team members in different geographic locations is counterproductive. If you are on an agile team, you might have read that agile only works for collocated teams. Can a team with telecommuters be as successful as a collocated team, or is it doomed to eventual failure?

In this article, we'll look at the physical, cultural, and social obstacles faced by teams with one or more telecommuters—what we call “tele-teams.” We'll use real-world examples to explain how you can overcome these obstacles and perhaps even take advantage of the added flexibility that telecommuters can provide.

Our Focus

Distributed teams take many forms. We'll focus on teams where most members work in a main location with one or more people working remotely. This is a situation we have experienced ourselves.

Although the issues may differ for teams in which each team member is remote or teams that have several members in a number of locations, there are a number of variables that affect tele-teams. Let's look at some of the levels of complexity specific to teams with remote members. Then, we'll explain ways you can mitigate the risks and keep the team communicating and collaborating well.

Levels of Complexity

The number of team members working remotely makes a big difference in how tele-teams cope. Fewer telecommuters seems simpler, but a single remote person may be easily forgotten by a large team. The team must ensure that everyone stays in the loop, but your technical solutions may vary according to the number of remote team members.

Time zones are a big factor. Having everyone in one time zone is obviously easier than having team members half a day behind or ahead of the rest of the team. Compromises are required to get some overlap among team members in different time zones. For example, on our team, Nanda adjusts his hours so that he works late into his night, overlapping my morning in Denver.

Roles matter as well. Remote testers, programmers, or DBAs may require different strategies than a remote Scrum Master, product owner, or product manager. Technical team members have additional communication mechanisms that may either add to or ease their difficulties, such as source code control and continuous integration. Business experts who work remotely might not be familiar with common ways technical teams communicate, such as team wikis.

A remote team member's skill and experience level is an important consideration. If you hire a new programmer who works from a distant location, how will you get that person up to speed on your technology, architecture, and business domain? Since Nanda already knew our application and business inside out before he moved to India, it wasn't a difficult transition for the team. A new hire would have been a different story.

The number of people in the role matters, too. If one of three testers works remotely, the other two testers can provide support and continuity. On the other hand, having the only tester on your team working three time zones away could lead to delays and frustration.

Language is an obvious barrier when a telecommuter's first language differs from that of the main team. Even if everyone is fluent in one language, accents and dialects make a difference. Of course, this can be a problem even with collocated teams, but language differences make remote communication more challenging.

Cultural issues may also impede tele-teams. An informal team on a first-name basis whose members joke around with each other might intimidate a tester used to a formal environment. Behavior that's normal in one part of the world might be unacceptable in another. If you leave work for an hour to go watch your child's school play, will the rest of the team be OK with that? Cultural issues, such as language, can be a factor in any team, but time and distance can increase their impact.

Guidelines

How do we cope with time differences and varied cultural values and social structures when we have telecommuters in various roles with different skill sets? Let's consider some solutions.

TELECOMMUTING POLICY

Even teams without full-time telecommuters encounter occasions where people work remotely. Traveling team members may work while on the road. Perhaps a bad snowstorm prevents some people from getting to work, someone has to stay home with a sick child, or someone has to wait for a repair person. Situations like these can cause some confusion and floundering—unless you have in place a telecommuting policy with established procedures that everyone can follow.

Chris McMahon published this sample telecommuting policy, based on the experiences of several experienced tele-team members:

Any team member who wishes will be allowed to telecommute if: The whole team agrees to monitor and be responsive on all of the communication channels required by the organization for telecommuting teams. Team members doing solo or pairing work must keep the rest of the team apprised of their status, and should not be incommunicado for long periods of time.

Telecommuters who are not responsive on all required communication channels will be questioned and may be subject to having their telecommuting privileges revoked or other disciplinary action [1].

This telecommuting policy also spells out the necessary equipment: “Each team member must have a good quality USB headset and microphone.” It establishes the common standard for software needed to communicate with remote team members: “We will use VNC to share desktops.” “We will use Skype for audio and Yahoo IM for video.” “All team members will monitor the social and project IRC channels during work hours.” “We will record all meeting notes and whiteboard photos on the team wiki.” The team might experiment with and change technical solutions over time, but everyone knows the current standard.

Team members look to the policy to know when they need to be available and how they should communicate. The team may decide to have “core hours” where everyone on the team, remote or otherwise, is online and in touch by audio and video. The policy might help increase virtual face time with a remote member in a different time zone by specifying meeting times or days when some team members shift their hours. The policy tells business people when and how they can expect to communicate with remote development team members.

Successful implementation of a telecommuting policy requires commitment from every team member. Telecommuting training sessions, conducted in person or via the standard remote communication channels, help establish a workable telecommuting culture.

The telecommuting policy is a living document. Keep it on a team wiki or a similar location where it’s easy to access and update. Review the policy periodically to make sure it optimizes communication and reflects the best communication practices in place.

TEAM DISCIPLINE

All team members must commit to the telecommuting policy. For example, if the policy says that the standup meeting happens at 9:00 a.m. every day, the base team needs to make sure that all the communication channels are up and running, while the tele-members need to be connected and ready for the meeting at 9:00 a.m.

The biggest problem for a tele-team member is not being in the loop for the decisions that impact him. These could be some simple decisions made during a water cooler conversation or decisions made at a meeting that happens when tele-members are not available. It is important for all team members to think about whether the tele-members need to know about decisions being made. Since Nanda works remotely all the time, the team has written with big letters on the task board “Does Nanda know about it?” This reminds team members that they need to communicate with him continuously.

Keeping development status up to date for all team members is essential. It’s frustrating for the entire team when a tele-member runs out of work or doesn’t know what task to start next. Whether you use project-tracking software or a physical

task board, you need to update it every day. Every day, we post a digital picture of our task board on our wiki. This allows us to keep that “visibility” aspect of agile effective, while providing timely communication with our tele-members.

While these simple tools help us communicate effectively, it’s up to every member of the team to have the discipline to use the tools. It shouldn’t be just one person’s responsibility to make sure that the pictures are posted or an email is sent or whatever communication needs to happen happens. Team members have to avoid a “not my job” attitude and, instead, adopt an “it is my job” attitude with respect to communicating with tele-members.

Though these simple techniques improve communication, they are not the same as face-to-face communication. Our team has set up the “virtual member” virtual telepresence device shown in figure 1 to facilitate face-to-face communication with Nanda. The team assembled a laptop, a high-quality microphone, speakers, and a controllable camera, all mounted on a rolling cart. A tele-member can remotely log on to this laptop using VNC and control the camera. This allows tele-members to be in the team room whenever they feel like it, without the help of the base team. A remote person can participate in meetings and be rolled over to individuals for pairing or conversations. The microphone allows the tele-member to hear casual background conversations that he might want to join. This encourages the tele-members to be more in the loop.

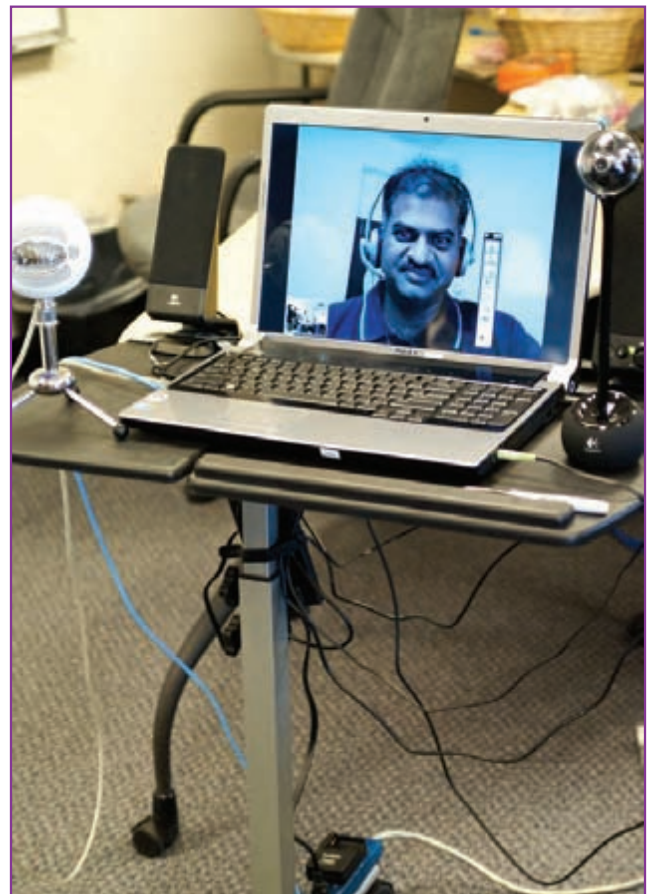


Figure 1: Virtual Nanda

"In addition to technical solutions, it's a good idea for a tele-developer to have a buddy on the base team who facilitates communication. This could be another programmer or tester with whom he is pairing on the story."

Larger teams require even more focus to keep remote members in the loop. It's too easy to forget the tele-members. If your team has twenty people and only one is remote, consider dividing into two or more teams.

WHO CAN TELECOMMUTE?

As we discussed earlier, role and skill level impact the success of a tele-team. For example, a database administrator or system administrator can usually work independently and may find telecommuting easier than programmers or testers who collaborate constantly.

If your team has a remote product manager or product owner, you'll have to do extra groundwork to finalize requirements for a user story or feature before development starts. In this situation, changing requirements in mid-development is more difficult and disruptive. You have to make accommodations appropriate to the roles of the telecommuters on your team.

No matter what your role, if you're working remotely part or full time, you need to know how to set up your own computer, network, and any other components. If your hardware or software fails, you should be able to bring everything up and running as quickly as possible. Having redundant hardware can help minimize downtime. A telecommuter also needs to know how to connect to various servers at the base datacenter—or at least know where to get the information.

A generalist is usually better suited to telecommuting, but suppose your team hires a hard-to-find specialist who can't move to your location. We recommend that you bring the new hire in for on-site training with the team for as long as possible before she starts telecommuting. More face time is always better.

We've already mentioned techniques such as posting photos of the task board on a wiki and setting up a "virtual team member" telepresence device. In addition to technical solutions, it's a good idea for a tele-developer to have a buddy on the base team who facilitates communication. This could be another programmer or tester with whom he is pairing on the story.

Missing out on hallway discussions where decisions are made disrupts tele-members regardless of their role. If a developer and product owner decide to change a piece of functionality and forget to tell the tester, she may waste time testing to the wrong requirements, possibly reporting unexpected behavior as a problem when it is actually changed functionality. The high-quality microphone we mentioned earlier helps remote people get in on these conversations. Consider putting a webcam and microphone in the break room, as well.

Design meetings in front of the whiteboard are a great way to communicate, but how can tele-developers see the whiteboard real-time? Teams can use smart whiteboards that transmit to a remote whiteboard or use web-based whiteboard applications. Some webcams have a high enough resolution to transmit the whiteboard drawings.

Our team uses a cheaper solution: One team member types the important points during the meeting over a "back-channel" chat that doesn't disrupt the meeting or updates a wiki page that Nanda and anyone else working remotely that day can see. At the end of the meeting, digital pictures of the team are posted.

Challenges

Since development teams usually have more programmers and testers than any other role, let's look at specific issues for telecommuters in these roles.

SPECIFIC CHALLENGES FOR PROGRAMMERS

A remote programmer needs to communicate a lot with the base team to stay on the same page regarding the requirements and day-to-day progress. If you're a programmer working in a different location, you need to understand all the work planned for the next several days to avoid any idle time when you have finished the task in hand. If you do find you've run out of coding tasks, be willing to take on testing tasks or other activities outside your normal job so you can keep the team moving forward.

Tele-programmers need to understand the other programmers' viewpoints of the functionality on which they're working. Have face-to-face video conversations to get consensus architecture and design decisions. This is one area where a virtual telepresence device comes in handy. Pairing remotely helps keep everyone engaged and is easy to do with desktop sharing devices and VOIP or phone.

Frequent check ins are a good practice for all developers, but it's especially critical for remote members to check in their work and keep their source code and local build environment up to date. It's helpful if all team members use the same IDE so it's easier to help the remote members when they have problems.

SPECIFIC CHALLENGES FOR TESTERS

One of the most common problems for any team, whether or not it has remote testers, is for testing to be squeezed to the end of the iteration or release because coding took longer than expected. Having testers in a different time zone may ag-

gravate the problem: The tester finds a “test-stopper” issue while the rest of the team is asleep and has to wait an entire day for a fix. This is one reason why testing can’t be a “phase” but must be integrated throughout development. It’s also an argument against having the entire test team working in a location different from the programmers.

By using a visual task board to focus on finishing one story at a time, testing activities can be spread throughout the iteration rather than concentrated in the last couple of days. The team needs discipline to limit the amount of work in progress. Remember, no story or feature is “done” until it’s tested.

Testers often don’t have the same technical skills as programmers, so make sure someone’s available to help a remote tester who gets stuck on a continuous integration (CI) or test environment problem. On a team where Lisa worked remotely, she ran into situations where the CI process broke down and she couldn’t build the software on her own environment, either. She couldn’t deploy and test the latest build until someone on the base team could help address the issue. Invest in a rock-solid build-and-deploy process and stable test environments.

If you’re a telecommuting tester, grow your technical skills and domain knowledge so you can be more independent. Don’t be afraid to ask for help when you need it so you don’t slow down the team.

Embracing Good Practices

Development practices popularized by the agile movement are especially beneficial for noncollocated teams. CI is a must for any team. A good CI build-and-deploy process keeps everyone productive.

Upgrades to the source code control, CI software, or third-party libraries must be well coordinated with remote team members so their progress isn’t impeded by difficulties building or deploying the application. Our team maintains up-to-date documentation on build-and-deploy procedures, third-party libraries, and source code control information on the team wiki, alerting teammates to changes by email and in the daily standup. Our continual integration process includes sending emails to all team members with results of each build.

As mentioned in the previous section, pairing is just as effective when done via desktop sharing, audio, and video software. Pairing goes a long way toward helping tele-members stay in the loop and learn domain and technical knowledge. The same communication technologies make test-driven development at both the unit and acceptance level work well for tele-teams. These practices help overcome the disadvantages of having remote team members.

Daily standup meetings help everyone on the team stay on the same page, as do frequent brainstorming and planning meetings. Timebox the meetings, especially if a remote member is getting up early or staying up late to join in. Schedule retrospectives—critical to team success—at times when tele-members can join in.

Top Tips for Tele-Teams

Telecommuting may allow your team members a better work-life balance, help your business retain a key team member who must move away for family reasons, or let you take advantage of top talent outside your local region. The technology and practices that help tele-teams communicate are mainly good communication tools and techniques that would help any team. Our list includes: Set up a virtual member telepresence device so that remote people can effectively work in the team room with the base team; establish standard tools for desktop sharing, instant messaging, and other voice, video, and back-channel communication; and consider tools for the occasions when team members must work from home or while traveling.

Our team has found that the simplest solutions usually work best. Using a physical task board and whiteboards for planning and understanding requirements and posting high-resolution photos of these on the team wiki in a timely manner keep our tele-members up to speed. We like to include snapshots of daily goings-on so Nanda can see what the team is up to. For example, Lori converted her cube into a standup desk, Mike got a new haircut, and Vince’s wife made a birthday cake. Little touches help every team member feel equally valued, regardless of location.

Some teams may find that online planning and tracking software works better for them. There are many open source and commercial solutions available. Don’t hesitate to experiment and find what works best in your particular situation.

We can’t overemphasize the importance of “face time.” It’s a good idea to bring all the tele-members to the base team periodically to help them get in sync with the rest of the team. Take advantage of any opportunities for a base team member to visit the tele-team member. Lisa had the chance to go to India to present at conferences and was able to visit Nanda and see where he lives and works. It helped her better understand his challenges working half a world away from the rest of the team.

Making your tele-team work will require patience, discipline, and commitment. But it’s fun and rewarding. Every iteration—or even every day—take time to evaluate how well everyone is communicating. What’s getting in the way of the remote team members? Is it hard to keep everyone up to date? Focus on one problem at a time and experiment with a solution. If that experiment doesn’t work, try something else. Tele-teams often enjoy more diversity, which leads to more creativity and innovation. Better communication is good not only for the remote people but for the whole team. You may find that your tele-team provides more value to your business than a traditional collocated team could. **{end}**

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Notes**

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■ References