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GRANT: Hi, this is Matt Grant, and I have on the line Sasha Mostofi, Product Marketing Manager for IBM Rational. Today we're going to be talking about how connecting process and tools can increase productivity. Hi, [Sasha], thanks for being here.

SASHA: Hi, Matt. Thank you.

GRANT: Sasha, why is process improvement important to an organization's productivity?

SASHA: Because, Matt, it's been shown many times that the quality of a product is determined by the quality of the processes that are used to develop and maintain it. So a process that emphasizes doing it right the first time is important in building better systems and software and meeting the needs of an organization and its customers.

In fact, a McKinsey report titled, When IT Lifts Productivity says that the deployment of powerful IT tools improves your productivity by two percent, but companies that have increased computing power and the improved management practices achieve about 20 percent higher productivity. That's about a 10 times increase in productivity when you combine tools with process.

So these and some other results show that better management practices -- and in general, process improvement -- can raise productivity a great deal.

GRANT: So how will an organization know which process improvement initiative or guideline to implement?

SASHA: This is a good question, Matt, and one that a lot of organizations ask themselves in the development of their products.

A lot of organizations don't really have much of a process unless they're mandated to follow guidelines such as the CMMI. So overall, a lot of software and systems organizations follow a simple process or they have ad hoc processes.

Usually what happens is that they do a little bit of requirements gathering, and the developers who don't want to deal with process at all because they're busy coding develop the application and then the software is tested and sent to the customer.

A few months passes before the customer comes back with feedback and probably some complaints about missing requirements. Then the developers make the changes based on

the feedback and the change is sent to the customer.

Of course, this is over simplifying the process of development, but for many small organizations this is quite accurate. And sometimes this way of working doesn't really change as an organization grows. So if you can imagine, this way of working might seem incremental and even iterative, but it can also be quite inefficient and ineffective.

GRANT: As far as I can tell there are tons of different processes out there that an organization can choose from. If we decide we want to pick a process to follow, which one would I pick?

SASHA: I wish there was a simple answer; unfortunately, there isn't a one size fits all process. Processes have to fit the needs of the organization based on factors like size of the team, complexity and novelty of the application, number and location of stakeholders, and the cost of failure -- for example, high reliability and safety critical systems or even regulatory requirements.

This is why process tailoring and continual process improvement should be built into the process itself. I think that one statement that I heard that sums it up well is, the best process to follow is the one that makes your

team the most productive and results in the best products.

GRANT: So going back to that remark you made about improving the productivity of a team by combining tools and processes, can you talk a bit more in detail about that?

SASHA: Sure. One of the issues with adapting new tools is that it involves more than just learning how to use these tools. Users have to also learn how to use them effectively to achieve the goals of the organization.

So most tools can support a variety of processes, but to use the tool effectively, you need to know which features to use and what workflow to use. For example, say you introduce a configuration management application into your organization.

Usually configuration management applications can be complicated to use, and a lot of developers don't want to deal with learning them.

But what if you had a Web site that the developers could automatically launch without having to leave the CM application or even their requirements management application, and on this Web page they could get a list of guidelines on how to use these tools. This extended help system would be more than the usual tool feature list and could include information on the workflow as well.

GRANT: Interesting. Now, I would think that this would increase productivity quite a bit.

SASHA: Yes, it would, because it increases collaboration and communication which in turn will have to increase your productivity. In addition to that, you're probably getting better quality products out the door in a timely fashion because you're not wasting time redoing things that you should have known in the first place if it was properly communicated with you.

GRANT: Right.

SASHA: One of the applications that actually has helped us achieve this sort of productivity is IBM's process improvement framework called Telelogic Harmony. Just so you know, Telelogic Harmony is a library of best practices and a complete end-to-end sample development process that can be used out of the box or as a starting point for incremental process improvement.

What's nice about it is that Harmony is created and maintained using the Eclipse Process Framework or Rational Method Composer, which is a commercial offering built on top of EPS and is easily tailorable. The library also includes tool integrations and support for each of the practices and built-in guidelines or guidance on deploying the process.

GRANT: Now we've been talking a lot, it seems, about IT software until now. But what if I'm developing embedded and real-time applications as well as developing systems?

SASHA: As I mentioned earlier, we recognize that there is no one size fits all process. So included in Telelogic Harmony are best practices that apply to other types of development such as embedded software and systems development. Interim processes for these two domains are included in Harmony to ease adoption of these practices.

GRANT: So say I'm an embedded and real-time software engineer or a systems engineer. What can Harmony specifically do for me?

SASHA: Several things. Through integrations to tools for embedded real-time development or systems engineering, it can provide recommended guidelines for your team. For example, if you're an architect working in Telelogic Rhapsody to model and design your system, or a systems engineer in Telelogic DOORS for requirements management, you can launch the relevant Harmony Web site directly from the tool to get guidelines on how to use the tools.

Also, what steps to follow or any other process that you might want to enforce as far as your company is concerned.

You can view the relevant information on tasks, work products and also associated guidance based on your role and see how your work fits into the end-to-end process.

GRANT: Interesting. You mentioned that Harmony includes sample processes for embedded real-time development and systems engineering; is that correct?

SASHA: Yes it does. That's correct, Matt. The Telelogic Harmony library includes best practices that spans both of these domains in addition to IT software application development. So Harmony ESW is a complete interim process that helps with developing safety critical embedded software, and it can be used by an organization as-is or as the basis for developing a process that better meets their unique needs.

Then we have Harmony SE which is a model-based system engineering process that currently covers stakeholder requirements, developments and analysis, system functional design and also VNV planning lifecycle processes from ISO 15288 and so on. So these lifecycle processes can be reused to create an end-to-end process that meets your systems development needs.

The nice thing about the sample processes is that they're not bloated. Some processes come with tons of information

which you might not need, so you have to go through all of that to throw out what you don't need. But Harmony comes with essential information to get you started in the right direction, and lets you add best practices incrementally.

So basically the tool integrations, step-by-step guidelines based on roles and activities, and sample configurable processes can help organizations enhance their productivity.

GRANT: Well, Sasha, thanks so much for taking the time to talk to us today about how connecting process and tools can increase productivity. IBM is a leading global provider of software and services for application lifecycle management. To learn more about Telelogic Harmony visit Telelogic.com.

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