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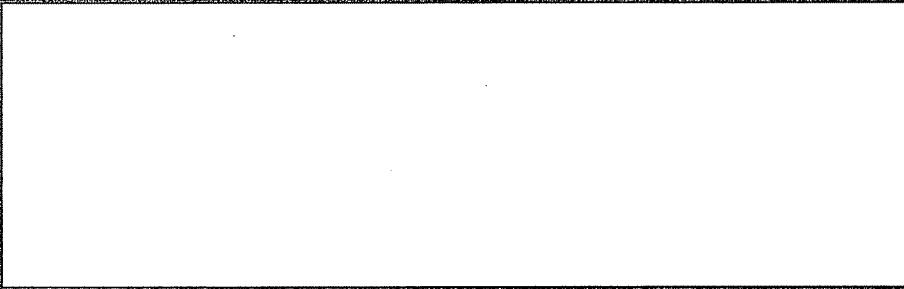
Where Construction and Technology Converge

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APP CATALOG

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WORKFLOW IN THE FIELD

Josh Hamm, systems administrator, Jacobs Engineering, www.jacobs.com, Pasadena, Calif., works out of the company's Bellevue, Wash., office and has been assigned to a remote project for seven years. During that time, Jacobs has been using Internet-hosted applications to handle the project.

Hamm recalls how Jacobs Engineering got started with its current software provider. As the company was planning on developing workflows for its project, it decided to examine the landscape of technology. The decision ultimately came to implement a product called Intellect, from Interneer, www.interneer.com, Culver City, Calif., due to the fact the company believed it had a strong workflow module. Another key was the flexibility that has allowed the company to update and customize to accommodate changes in the workflow ever since.

He continues, "The main benefit we have seen is that it takes your repetitive business process and standardizes it for the entire company, across all boundaries and for all individuals. We have 11 different workflows that are repetitive business processes, and we can always rest assured that each process is going to complete. It provides accountability for all the players who have a part in that workflow."

It seems that everything has shrunk in terms of time because of the Internet and some very robust technology. "You're not dealing with paper going back and forth," Hamm admits. "The minute someone gets an action item, they get an email saying, 'Hey, you have an activity, go do your work.' So it's very quick and can provide you a very quick turnaround for all your business processes."

Technology has improved the workflow process in construction, but it certainly not bullet proof. As Josh Wright, product manager, Viewpoint Construction Software, www.viewpointcs.com, Portland, Ore., describes, "As a whole, there's a disconnect in construction companies between the project site, the folks out building the buildings, and the backoffice. One of the most important workflows is the process of moving information back and forth between the field teams and the office. That's an internal company workflow. When changes happen to budgets or job cost issues come up they should be reflected to everybody instantly and not just sit on a spreadsheet in a project trailer for six weeks before the CFO knows about it."

There are many documents in the construction world that have multiple revisions and multiple people working on them. It's important that companies step back and look for a solution that allows one version of the truth. Anybody, any stakeholder in the project, should be able to go to a single place and understand exactly where things stand at any point in time. And traditionally that's been very hard in construction with remote jobsites and the scattered nature of the construction world.

In the case of Jacobs, Hamm says the company is looking forward to a new way of dealing with workflow:

mobile apps. "All our inspectors do a daily report and they have to write all their notes out in the field, and then come back in the office and login to the Internet and do their report. With a mobile app, they can do their report right out in the field, in their car, wherever they are, and have it done right then, no delay. It's a really valuable piece because that's where everything's headed. People want to use their iPad or their smartphone and do their work."

According to Interneer, with the system the actual content is completely defined by the user. This allows users to build their own apps to use in the field using drag-and-drop to create things like set-up menus, screens, and other things, all within the system itself. When a user connects, the system automatically will generate the app locally due to the fact it a dynamic native app, not running through a browser but on the actual device. This means it has the ability to leverage all the native features, like GPS, or taking pictures in the field.

The smartphone and tablet computer are innovative mobile devices that represent a new way to connect. "One of the biggest game changers in workflow has been 4G cellular networks," comments Wright, who represents the Construction Imaging product line for Viewpoint. "The ability to have anywhere-anytime access is just amazing. Think about taking photos with your device on the jobsite and

sending those directly back to your office or to stakeholders."

Seth Dawson agrees. The CEO of Paperless Environments, www.paperlessevironments.com, Baton Rouge, La., adds, "I really think that's a big breakthrough and those who can connect back to the main office are the ones who are going to be the winners. You're seeing new smart apps that are going to make leaps and bounds within the next couple of years. We have the tools now to do that and it's really getting clients to think of all the different ways to come up with some good ways to add collabora-

Screen size isn't the only limitation today. "I think what is missing is extensibility," acknowledges Andre Gunter, product manager, McLaren Software, www.mclarensoftware.com, Houston, Texas, a company that focuses on engineering document management, collaboration, and control solutions. "While taking your device anywhere, particularly on a jobsite, and not having to be in the office to execute what you need to do is important, cloud-based solutions actually are far more powerful. You can bring a far greater community together and you'll be able to interact in a better way."

Gunter explains the challenge is to engage the supply chain electronically in a manner that eliminates double handling, reduces duplication, reduces errors, and allows for a single unified approach to manage the processes using a single system.

Augmenting your server-based solution with a cloud-based offering that integrates with it will allow extending processes into controlled and secure environments outside the firewall, in a seamless, secure, and efficient way.

"That will allow them to interact with external parties in a way that they have traditionally not been able to do," continues Gunter. "This will mean that processes can be started in the on-premise solution, continued in the cloud, when outside intervention from external supply chain partners is required, and brought back into the in-house on-premise solution once the process has been concluded."

—Tom Inglesby

42% of IT leaders have invested or plan to invest in Big-Data tech within a year.

Constructech magazine Source: Gartner, Stamford, Conn.

oration, add more up-to-the-minute functionality, to coordinate between home office and the field to get things done."

But there are still limitations to some of those mobile devices. Dawson adds, "When they first came out with smartphones, everybody wanted everything on their phone! Well, that is limited by the screen size—it's obviously very small. I think the big news is the introduction of the iPad and other types of tablets—you can actually see a good part of a document and not have to scroll around it so much. As a developer, now that Microsoft has come out with their own tablet, I think you are really going to see a huge boom in the number of applications that come out for construction companies."