Digital Map Products has been active in the GIS industry for more than 10 years, first with data and then offering software solutions. They have been a pioneer in the Software-as-a-Service (SaaS) area, with turnkey solutions for municipalities, real estate and land acquisition companies, and application developers. V1 editor Matt Ball spoke with Jim Skurzynski, president and CEO, about the growth of his company and the demand for easier solutions that spread the benefits of spatial technology.

V1: You have quite a bit of geospatial DNA at your company, with extensive use of the tools. Can you describe your push to expand the use of spatial tools to a broader business community?

Skurzynski: When I started Digital Map Products in the late-90s it was about removing obstacles, and getting beyond where the industry was currently with GIS, which was just scratching the surface of realizing the benefits of the technology. Our company has been dedicated to knocking down obstacles, and that still continues to be the mission today, although it has taken a bit of a different form since we started.

I came from a data conversion background, and initially I felt the main obstacle was the high cost of data. We started collecting the rights to re-license data and then parsed it out into bite-size pieces that people could use. I quickly discovered that the data was useless without an easy way to access and view it. I could hand out $100 million dollars of data on DVD, and it would end up as a drink coaster in someone's conference room because they couldn't figure out how to use it.

That obstacle really became the basis for wrapping the application around the data, including it as a turnkey package, and delivering it directly to the end user via the Internet as software-as-a-service.

V1: You've been doing software-as-a-service for some time now, with different tailored pieces targeted at different vertical markets.

Skurzynski: We put together our first turnkey software-as-a-service package for local government with a mission of providing a service that would relieve city governments from the burden of having to buy a bunch of software and equipment to put a GIS system together themselves. We said that we'd take care of everything from the screen back, and all the municipalities had to do was sign up.

We started signing customers up in 1997. By 2000 we had a dozen clients, and now today we have hundreds. That was back when the Internet was all about eyeballs and advertising and the freemium model, and we had people paying us to use an Internet application that brought value to their organization. It wasn't until later that we allowed access to the underlying technology so customers could build their own interactive mapping applications.

V1: I would imagine that this approach really resonates with local governments now with their restrained budgets.

Skurzynski: Yes, this approach is perfect for local governments that want to leverage GIS but who need to find a more cost effective solution in these tough economic times. Over the years, we've seen local governments increasingly realize both the benefits of GIS and the challenges of building and maintaining a custom system. Two groups of customers who've really benefited from our SaaS solutions are the small cities who couldn't otherwise afford a traditional GIS solution and medium to large size cities who have invested in departmental GIS but who've struggled to deploy it throughout their city and to the public. We're seeing a lot of interest from this second group lately because they're needing to scale back and GIS has been a big expense for them. We're happy we can offer them an alternative so they can keep expanding their GIS for the same to less budget. In these times of tough budgets local governments are trying to figure out how to do more with less.

That's just one vertical. We have products in a few verticals now. In addition we've made our spatial platform available to developers of mapping applications in any industry. All of our applications are workflow-centric, and there are quite a few of our customers who don't even know what GIS is. Because we give our customers a solution-set approach to incorporating spatial technology into their applications, they can leverage GIS without having to develop that as a core competency. This represents a real change in how organizations develop and deliver spatial applications and services.

Over my career I've lived through a couple of similar evolutions in other industries. When I started work back in the early 1980s, the company that I was working for had a huge word processing pool. When you needed to have something typed you boxed up your tapes and notes and took it to the word processing pool for it to be typed. Three days later you got your manuscript back, and you marked it up and sent it back for revision. Today, word processing has evolved from a specialized tool, to a ubiquitous skill. You wouldn't hire someone who couldn't use a word processing program.

Similarly, in my first management job I ran a computer-aided design department for an Engineering firm. Those departments don't even exist today because all Engineers are skilled in CAD. In fact, you wouldn't hire an engineer that couldn't use computer-aided design. I think the same thing is happening with GIS. In order for it to get pushed out to the end user it has to become so simple to use that it's second nature. To get to that point, GIS needs to be embedded in the workflow, or the tasks users are trying to accomplish. When this happens a handful of people might know they're using GIS, but most will be able to use it successfully complete their task without knowing the underlying technology or functions. GIS will become ubiquitous when people no longer have to develop a core competency to use it.

V1: It still surprises me that some of the deeper dive elements that GIS is capable of, such as in-depth spatial analysis aren't a focus of most GIS users. What's your take on the higher end uses of the technology?

Skurzynski: I think there will always be a place for the leading edge, where ad-hoc queries into the database and analysis take place. This level of interaction is kind of like what the DBA does in the conventional IT organization. Even though everyone out on the floor can use Excel, if you wanted to do a sophisticated analysis of your corporate database, you'd probably bring a DBA in to do that.

You can do a lot of things by extracting information from a database into Excel without being a SQL expert. Most people are familiar with that, but you're always going to have the high end resource available to make it do new tricks.

My position is that for every one person at the DBA level, there are probably a hundred people that need access to that data every day, and have given up on putting their request in the queue and waiting for the spatial technologist or DBA to do that analysis and get the answer.

It's really just an amortization of work across a broader audience. The things that folks can do on a day-to-day basis with workflow tools that embed spatial technology, really spread the use.

If you go to one of our typical government clients, they have 120 or so employees. They may have three or four GIS specialists that are working on the leading edge uses of the technology, but the vast majority of their employees, probably 80% are using GIS through our applications. They use it every day to make plots, make mailing lists, analyze occupancies in neighborhoods, catalogue foreclosed properties, conduct tree inventories and do pavement management; all those tasks that aren't a GIS function per se but that benefit greatly from GIS technology. Our applications are designed to make our clients' work processes dramatically more efficient through the use of embedded GIS.

V1: Is it a bit of a science to really make these tools more accessible, in terms of simplifying their look and feel?

Skurzynski: I think the user interface is a very important part to delivering on this mission. Making the products look more like things that people use every day, with intuitive interfaces, is difficult for those that went to school as a GIS person. They're almost tainted by the workflow

process from the technical angle as opposed to what we call the non-technical professional. For us, the Internet was really the breakthrough for getting GIS out to everybody.

V1: You've really capitalized on the openness of the Internet by also making your application open for further development.

Skurzynski: Yes, just about everybody in the real estate business has discovered mapping and wants to incorporate it into their tools. But today, most of them put mapping out there almost as an after-thought, where the map is separated from the workflow and most of the user product experience. This very basic implementation of mapping is something we like to call Points on a Map. It's a good starting point, but these real estate businesses can, and should do more. Just about everybody that has discovered mapping has created an application that's based on points on a map.

One of the tenets that we really push in the marketplace with our SpatialStream™ product is to have a plan that goes beyond points on a map. Our approach is to go further and make the map part of the user experience with interactivity and integrated data sets. That's really where you get a huge gain in accessibility. Now, instead of 5% of your organization feeling comfortable inside the application, you have more like 80% of your potential users feeling comfortable inside the application. That's the challenge that we're putting out in the marketplace, to encourage companies to have a plan beyond points on a map.

V1: I'm fascinated by the move to not only offer tailored applications, but also to open up the platform that you've created for further development. What motivated that decision?

Skurzynski: Well, we started off producing finished goods applications. What we mean by finished goods is that the product is ready to use the day you purchase it. Using CityGIS™, our first finished goods application as an example, as soon as a city signs up for CityGIS™, the product is ready to use, and helps them manage their local government infrastructure. They write us a check, get access to the product, and get 120 user access logins. From CityGIS™, we've created additional industry specific applications, such as our product called LandVision™ that we sell to builders, developers, and commercial brokers in the real estate industry.

By the time we brought both CityGIS™ and LandVision™ to market, we realized that it would take a long time for us to develop vertical applications for all of the different markets that we thought could benefit from embedded spatial technology. We realized that we needed to expose our core spatial technology so that other developers could take our technology into their markets. That's how we got into the online real estate market. If you look at what Zip Realty, Costar or LoopNet have done with our technology, they've taken a giant step forward in spatially enabling their existing applications, without having to start from scratch or to become GIS experts themselves.

Because our spatial solutions are delivered via the Internet, the ability to share data among organizations, departments, and individuals is huge. A popular feature of our local government solution is CommunityView™ which lets cities add interactive maps with property, city and community data to their public websites. CommunityView™ integrates into cities' existing site

and offers familiar, consumer-friendly mapping technology for city residents to self service their information requests. This lets cities more effectively publish information to their community and communicate with residents. One of our city customers used CommuntiyView™ to publish all their horse and hiking trails in the city and even attached video clips so residents could virtually traverse the trail as if on horse-back.

I bet if you asked any of the thousands of people that have accessed that application if they know what GIS is, they would raise their eyebrow, because they don't. To me, that's success. When they have made their work process or their life more efficient without having to even understand what the technology is, we've accomplished our mission.

V1: Are there more opportunities out there for you in terms of turnkey solutions?

Skurzynski: Absolutely. We'll be continuing to create vertical applications ourselves, as well as opening up the platform so that others can build applications on top of our technology. If you go to Redfin, it's a great example of how developers can enhance their existing applications with our spatial technology. In the case of Redfin, they wanted to incorporate parcel boundaries and allow users to interact with them within their existing mapping application. They were trying to figure out how to do it themselves and not getting very far when they realized that through our API they were able to do what they wanted to do with just seven lines of code. Plus, because they're using a web service for parcel boundaries, they no longer have to worry about data processing and updates.

Not only do they not have to collect parcel data from 2,000 counties across the country, but they don't have to match it up with the property records or write the code to correlate between different databases. They call the service from our website interactively and it happens behind the scenes.

V1: Is the integration with existing GIS, importing and exporting data back and forth, fairly seamless?

Skurzynski: It is rather seamless, but we don't emphasize that. The minute we say, "All you have to do is..." our customers' eyes glaze over. They don't want complexity, all they want is to use the product. They don't want to have to bring data in, or export out, they want a turnkey solution.

The product starts out turnkey, but you have the capability to load your own data, input it through workflow commands, and there's a Data Loader tool to bring in your own data. When you start on day one you need nothing, but you can add to it over time. We have customers that have 100 data layers that they've created within the platform or loaded in using the Data Loader.

V1: Do you find some pressure from other open platforms such as those from mainstream GIS vendors or Google or Microsoft's open APIs?

Skurzynski: They are actually perfectly complimentary. In the beginning there was no platform,

so we built our own on top of the University of Minnesota Map Server to maximize performance. We're not talking about an enterprise GIS with thousands of viewers. Today we're at 350,000 users all told.

Initially when Microsoft's Virtual Earth (now Bing Maps) and Google Maps and Earth came out, we had to sit back and ask where we fit. We very quickly realized that this was going to be huge for us. It was going to open up a whole new awareness about the power of spatial technology. We worked to make our platform compatible with Google and Bing Maps.

If you draw the typical business pyramid with the consumer masses at the bottom, they will be served quite well by Google and Microsoft. We're going to sit on top of that, because we're going to go really deep into workflow solutions. At the top of the pyramid, where Intergraph, Esri and Autodesk sit, that's a component piece where they can configure their building blocks to do anything that you want to do. Our product is more workflow specific, and about the work process, that GIS is a part of. In my mind, I still think it's the lions' share of the opportunity, and it fits very well with both the bottom and the top of the pyramid.

V1: Do you find yourselves working with GIS people if your client has a GIS department? Or does the request and integration go through different channels.

Skurzynski: It's actually both. For some of our customers, they've already discovered spatial technology and have begun developing their own GIS applications, so, we work in concert with those folks. Typically they are more interested in our platform and APIs, because they have the GIS development skills and existing applications. However, most of our customers aren't as knowledgeable about or invested in GIS, so with them we serve as their GIS expert which lets them focus on their core competency. Because this type of organization typically doesn't have a huge IT or GIS departments or we usually work with the end user, which is typically at the vice president level.

I'd say we work directly with the end use 70% of the time, where they understand the benefit of spatial technology but don't have any expertise. The other 30% of the time we're either working with the IT department who have been charged to expand their role to include GIS or we're working with the GIS department. Sometimes we're bringing in finished goods applications, and sometimes we're bringing in platform.

V1: It's interesting to hear the breakdown between finished goods and platform. Do you think that these percentages will stay stable, where there's always more interest in the turnkey solution?

Skurzynski: I think the growth will continue in both areas. One of the things people really like about the finished goods applications is that they're extensible, because they're built on top of our platform. If you buy CityGIS™ or LandVision™, and you're two or three years into it, and you want to connect it to your ERP or permit system, it's an open architecture, and have the open API available to extend the power of the turnkey application.

Our biggest growth in the last couple of years has been with our spatial development platform. I

always imagined that our finished goods applications would be our flagship products, and they have been, serving as great examples of what you can do with the platform. Our platform has been just flying off the shelf in the last 12 months. I'd say that at least half of the company's growth has been based on platform sales.

V1: You obviously have some longevity and some good examples, but are there other things that you attribute your growth to? Was there a certain flavor of platform that you chose that's especially attractive to developers right now?

Skurzynski: I think one of the fastest growing markets for spatial technology is the real estate space, and in particular the online business to consumer real estate, Multiple Listing Service (MLS), and commercial broker segments. These segments see the value of integrating location capability into their applications, and the power of the map as a user interface as opposed to just a byproduct of a productivity tool. That market has probably caught on faster than any other for us, and we are fanning that fire with most of our development going into MLS and broker solution sets. That's where the majority of our growth has been. We have sold to three of the top five MLSs in the country within the last six months.

One of the things that this down economy has done across all our markets is to give the next generation of workers a chance to shine and bring new technology to the table to make business more efficient. Many of the individuals that were associate land acquisition managers during the heyday are now vice presidents of land acquisition, because the ranks have been thinned. The first thing they tackle is to do more with less, and they demand technology solutions from their management. They're pushing technology as the means to make their jobs better. It's been a pretty good last year for us, with some tougher times at the beginning of the downturn. People are definitely starting to see technology as part of the solution.