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Richard  
Campbell

RunAs Radio is a weekly Internet Audio Talk Show for IT Professionals working with Microsoft products. The full range of IT topics is covered from a Microsoft-centric viewpoint.



Greg  
Hughes

*Text Transcript of Show #024*  
(Transcription services provided by [PWOP Productions](#))



**Brad McGehee On Being a Better DBA!**  
**September 19, 2007**



[Music]

**Carl Franklin:** From [runasradio.com](http://runasradio.com), you're listening to RunAs Radio, the weekly Internet audio talk show for IT professionals with Richard Campbell and Greg Hughes. This is Carl Franklin, introducing show #24, with guest Brad McGehee, recorded Thursday, September 9, 2007. RunAs Radio is produced each week by PWOP Productions, offering professional media and podcasting services online at [pwop.com](http://pwop.com).

**Richard Campbell:** Hi there. You're listening to RunAs Radio and I'm your host, Richard Campbell, and with me as always, my co-host Greg Hughes.

**Greg Hughes:** Hey everybody. What's going on Richard? How are you today?

**Richard Campbell:** I am gearing up for Barcelona. It's still ways away but there is so much to do. The main thing we're working on right now pulling together all the great prizes for the 64-bit question.

**Greg Hughes:** Right.

**Richard Campbell:** So, on the Monday, right at the beginning of the conference, during the opening of the whole vendor floor and the vendor floor on the IT Forum week in Barcelona, absolutely huge. We're going to be there. We've got a nice little stage and then we're going to be running this contest called the 64-bit question where we're going to pull people from the audience, ask them an IT-related question, if they get it right, they win a prize.

**Greg Hughes:** IT trivia and knowledge test, huh?

**Richard Campbell:** Yes, absolutely. It's fun, believe me. I'm not trying to make anybody look dumb there. It's multiple choice. You always have a chance and I might even give you a couple of hints along the way.

**Greg Hughes:** Cool.

**Richard Campbell:** But the goal is to sort of introduce you to some of the great products from our sponsors and have a little fun and so we're working on that right now. We've got some of the folks that are at the IT Forum are going to be there talking to us about what they can provide for great prizes.

**Greg Hughes:** That sounds like a lot of fun and Speaker Idol as well.

**Richard Campbell:** Yeah, Speaker Idol is all ready to go. Apparently, the contestants are already lined up.

**Greg Hughes:** Terrific.

**Richard Campbell:** So, it may be too late. You can go check out the TechEd Europe website. There's a Speaker Idol session where you can still submit, but a lot of them have already been picked so you're running out of time. IT Forum, by the way, well ahead on registrations. They are going to sell out months in advance.

**Greg Hughes:** Really?

**Richard Campbell:** It's really, really. It's going to be packed. In fact, they're expanding the facility to hold the number of people that want to come.

**Greg Hughes:** Well, that's great. I'm really looking forward to it. Never gone to TechEd Europe. I've been to TechEd in the US of course and saw you at the last one. It's actually when we met for the first time face to face.

**Richard Campbell:** Yes and at the rate things are going, the second time we're going to meet is going to be in Barcelona.

**Greg Hughes:** Yeah, I think that's actually just about right.

**Richard Campbell:** So, that's the week of November 12th and the TechEd site is easy enough to find. Go ahead take a look. We're going to be there. We're going to be there the whole time. Still working on some panel discussions we want to have as well. So, we're going to be really busy at TechEd IT Forum in Barcelona.

**Greg Hughes:** Between all the events that are happening in TechEd and some of the things I'm sure we will record and the panel, it's going to be a busy, busy week for us but we're definitely looking forward to it.

**Richard Campbell:** I was really pleased with the shows we got from TechEd US.

**Greg Hughes:** Yeah, they were great.

**Richard Campbell:** We got to record fact to face where the audio quality may not be as high, but I thought the show was really dynamic.

**Greg Hughes:** Yeah, you know, actually I was pretty impressed with the audio quality. It really turned out pretty well and I certainly enjoyed -- you know, I always enjoy doing these shows with you Richard and with our guests and for the audience but it certainly was fun for us to be able to sit together and do it that way as well.



**Richard Campbell:** And while we're planning out the shows we're going to do in Barcelona, if you have any ideas for us, people you would like us to talk to or topics you want us to address, send us an email, [info@runasradio.com](mailto:info@runasradio.com).

**Greg Hughes:** You know what would also be great is if you're just planning on being there, just let us know.

**Richard Campbell:** Yeah, you bet.

**Greg Hughes:** Tell us what it is that you're interested or why you're going. What is it that you hope to get out of it? TechEd could be a RunAs Question, whatever you like. Just drop us an email. We'd be curious to hear from you.

**Richard Campbell:** All right, Greg. Let me introduce you to Brad McGehee. Brad is an MCSE+I, MCSD, and a former MCT with a Bachelors' degree in Economics and a Masters in Business Administration. Currently the Director of DBA Education for Red Gate Software, Brad is an accomplished Microsoft SQL Server MVP with over 10 years' SQL Server experience. Having founded the popular community site SQL-Server-Performance.Com, where he now acts as the technical editor and forum moderator, Brad specializes in SQL Server Administration, Performance Tuning, and High Availability. He regularly consults with multiple clients, helping them to get the most out of SQL Server. Welcome Brad.

**Brad McGehee:** Hi, welcome.

**Richard Campbell:** Just right off the bat, big fan of Red Gate, just wonderful set of products. I wouldn't administer SQL Server database without them. It's just that they do great things and real big player in the community too. It's a lot of fun to work with those stuffs.

**Brad McGehee:** I first learned about Red Gate about five years ago when I had my website. I first started out, I had no advertising whatsoever and they came on as my second advertiser and with me for over five years before I sold the website last December. At that time, they were my biggest advertiser and once I quit my full-time DBA job I was doing in Missouri and before moving to Hawaii, I also sold my website and about that same time that they contacted me and said, "Hey, you know, we've known each other for a long time. Why don't you come over and visit us in England and we will talk about maybe doing some work." I did some work performing consulting basis and then they hired me last spring full-time to be their DBA Education Director.

**Richard Campbell:** And that's really the topic we want to get into today is this whole concept of getting a good education to be a DBA. It's really not that easy. I was out searching just really in prep for the show of if I wanted to be a DBA cold and I don't think it is a job that people pick in childhood either. Where would I start in searching? You don't get any easy leads. Where do you start?

**Brad McGehee:** That's exactly it and I started thinking about it, again, back when I had my website because I used to have people who write to me and say, "Hey, I saw your website. I want to become a DBA. How do I do it?" Going back about five or six years ago when I was first started getting letters like that or emails like that and I started to write an article basically based on how to become a self-made DBA and I wrote that article. It's basically how you teach yourself to become a DBA because you can't really go to college to be a DBA.

**Richard Campbell:** No.

**Brad McGehee:** You can get classes in database theory, but you don't learn how to do the day-to-day DBA administration task that everybody needs in the real world. If you go pick MCSE type training or other kinds of DBA database training classes in various spaces, you just get the very basics just to get started and after that you're pretty much kind of on your own. So, it's very tough to go anywhere, learn to be a DBA and then get a job as a DBA. It's actually almost impossible.

**Richard Campbell:** And the only way to get a job as a DBA is to be a DBA.

**Brad McGehee:** Well, most DBAs I found out come from two areas. You either come from at the development side, the developers who get interested in DBA type work, or they do more of the IT professional networking people who receive the databases or they even get assigned databases, not really their choice, and had become DBAs. They have no choice about it. It comes from those two angles.

**Richard Campbell:** It must be one of those roles. If you can grasp set theory, we have a job for you.

**Brad McGehee:** Exactly and a lot of people started out with a -- in the Microsoft world, of course, didn't start out with SQL Server, you start out with Microsoft Access.

**Richard Campbell:** Right.

**Brad McGehee:** And I was one of those kinds of people too. At the time, Microsoft Access came out



1.0 and I can't remember how long ago that was, early 1990s?

**Richard Campbell:** Yeah, that's like 1992.

**Brad McGehee:** Yes, something like that. I remember when it first came out, I was working in the marketing department for a software company. He was installing software for the heavy duty truck market and I was the director of marketing and I needed some ways to manage all the clients. At that time, it was on a mainframe and so I developed mainframes put down on my desktop and Access 1.0 and that was my second taste of databases. I've used them a little bit before a few years earlier, but of course right away you found out how powerful they were and at the same time how un-powerful Access was.

**Richard Campbell:** Access was great as long as the row count didn't rise much above 1.

**Brad McGehee:** Yes, exactly.

**Greg Hughes:** And as long as you have one user, single user.

**Greg Hughes:** What happened to me is I've been in the computer field for a while, an IT professional and got a little bored with it and went out into the marketing area for awhile. I did that for a number of years and got tired of that and decided to go back into computers again. Of course, I was out of the computer market about four or five years. As you know, four or five years is like a lifetime.

**Richard Campbell:** Oh yes, that's two or three versions of all of the major products.

**Brad McGehee:** Right. So, when I came back into it, I was actually living in Hawaii at that time in the mid-1990s and at that time Microsoft certification program had just started and the Novell program had been around for a little while. I was looking at which classes to take because I needed to get my skills back up to par. Unfortunately, at that time, there was only one place in the entire State of Hawaii that offered Microsoft training and only during the day when I worked. One company did offer Novell training in the evening. So, I went ahead and took that against my better judgment, but I needed some kind of certification I felt at that time just to give me back the story to go on again because as soon as I got my certification, I merely went and got my MCSE right afterwards. I did that all through self-study. I eventually ended up teaching as an MCT in Kansas City, Missouri, for three years and that's the point where I started using SQL Server quite a bit. They need a SQL trainer and I already had a fairly good background in databases, so I got certified in SQL

Server and started teaching it week after week after week after week after week. I did that for about three years and then after that I went and started doing full DBA work at real companies and have been doing that since then.

**Richard Campbell:** It's amazing how effective teaching something is to clarifying your own knowledge about it.

**Brad McGehee:** Exactly. When you try to explain a concept of something to somebody, you have to figure out the best way to do it and of course that will force you to think. How do you explain something difficult in a very simple manner? It's a matter of thinking it through and pursuing other practice. I think that's the best way to do things. When I first started out teaching, I wasn't the greatest teacher in the world. It's hard to express the concept, but after a while you kind of figure out the routine and examples, doing it became more automatic and it became more fun too the more you did it. So, I came up through, actually the teaching style as an IT profession to teaching to DBA work. As you probably know, most of your listeners probably know, a huge demand for DBAs right now, especially SQL Server DBAs. I have my resume out on [monster.com](http://monster.com), for example, and I'd literally get emails everyday someone wanting me for a DBA job since my resume gets on [monster.com](http://monster.com), let alone the other context I have. It's gotten to almost routine where I don't even bother answering them anymore because they get so many I might just delete them. There's a huge market out there for DBAs, but like anything else as we've talked about before, it's hard to become a DBA and you have to basically start somewhere. For example, someone emailed me about a year ago. He said he was a developer and he wanted to become a DBA. The reason why he wanted to become a DBA was because he had seen a couple of things. One is that DBAs are making more money and he wasn't as a developer, which is true. DBAs generally do make more than developers. Two, he noticed that when people got laid off at his company or outsource, this company, only developers are being laid off or outsourced and very rarely DBAs. He wanted more money and more job security. He just wanted to know what to do. And of course, the last recourse is to volunteer. That's what you have to do is whatever you're doing right now, you probably have some way of relating to a database one way or another. Most people where you don't have professional DBAs, who was just assigned the task of a DBA, there are lots of opportunities in those companies to go and say, "Hey, I want a volunteer to do this." "I'm going to go out and take a test," or "Just let me do it, I'll learn it." Very often, the manager will say, "Sure. Nobody else wants to do it. You go ahead and do it."



**Richard Campbell:** So, you're not saying volunteer for free; you're saying volunteer within your job.

**Brad McGehee:** Yes, oh yes, volunteer within your current job. Almost any developer is going to be talking to a database at some point or almost any IT professional is going to be managing indirectly a SQL Server probably somewhere in their company.

**Richard Campbell:** Right.

**Brad McGehee:** DBA work is specialized specific work that a lot of people aren't really familiar with in terms of how difficult it can be. Microsoft tried to make SQL Server seem like a really easy product. In many ways, relatively speaking, it is, but again if you look at it in other ways, it's also very complex.

**Richard Campbell:** Yes.

**Brad McGehee:** It will be more complex when the new version comes out and it really takes someone who is a specialist in SQL Server to really get the most out of the product. When I go to conferences like PASS and sit down and talk to people at the meeting, it's always very interesting to listen to them and find out why they're there. I ask them, "Have you been to a PASS before?" Most common answer is no. There are a lot of new people it seems like every year in PASS and I ask them why they come and they said, "Well, I just took over this responsibility and my boss wants to know a little more about SQL Server." I get that over and over again.

**Greg Hughes:** I'm just curious as to whether you are delineated and if so how would you delineate the difference between a database administrator and a database engineer?

**Brad McGehee:** They asked the same topic. There is a lot of confusion in the marketplace not only among DBAs themselves, especially among IT managers, exactly what a DBA is. That scenario is really interesting to me because I think PASS needs to take a more forceful point of view in that and try to actually delineate specific job titles and what they are. You have your database administrator, you could have a database engineer, you have a database designer, you have a BI engineer, you have a reporting person.

**Richard Campbell:** I've even heard guys called database developers.

**Brad McGehee:** Oh yes, database developers and some people can specialize in one niche, some people try to do it all.

**Richard Campbell:** Right.

**Brad McGehee:** I think it is impossible to do it all well. That's just too much information. I've never been able to do that.

**Richard Campbell:** Well, especially if you're going to try and accrue business intelligence in that which I think is an entire other field.

**Brad McGehee:** Yes.

**Greg Hughes:** Much more about information than it is about systems most of the time.

**Brad McGehee:** Uh-hmm. What's kind of interesting though is a lot of people contact me and say, "Hey, we need someone to do this job, so and so," and I say "Do you want a DBA?" Well, sometimes I'll look at the job description and they're not actually describing an administrative DBA, which is what I do, they're describing a developer.

**Richard Campbell:** Yeah, the database developer. On some cases, I think that the term you used Greg, database engineer are really the guys who build that data-related code for an application.

**Greg Hughes:** Exactly.

**Brad McGehee:** There need to be some kind of a better delineation about what different job titles are. You see in an organization like PASS, they are focused on database professionals to help differentiate that in people's minds. So, when a lawyer wants a database architect or they want a BI person or they want an administrator or a developer, you know exactly what those titles are. Right now DBA seems to be a very generic, all encompassing term.

**Richard Campbell:** So, shall we take a stab at it and try and define a DBA and a DBA engineer?

**Brad McGehee:** You're going to take a stab at it or am I going to take a stab at it?

**Richard Campbell:** I'm going get you to take a stab at it.

**Brad McGehee:** That's a good one, but it's not true that I want to, but I imagine the process of doing that. I'm actually working on a book called, "How to Become an Exceptional DBA." A started it and haven't done anything in about a year. It's going to be an e-book actually and will be distributed free from Red Gate Software and part of the book is going to be talking about those kinds of topics and subjects, but I know DBA from an administrative point of view because that's where I come from. I'm the kind of person who sets up the hardware, installs SQL Server, configures SQL Server, sets up the job, sets



up the backups, tests the restores, set the database recovery plan or write it in a specific place, I set up clustering, I monitor server to be sure it's running correctly, I do performance tuning in this problem, those kinds of things are the administrator tasks of a DBA.

**Richard Campbell:** And when you say performance tuning, you're not talking about optimizing a stored procedure so much as creating the right indexes, making sure that data structures are right for efficiency, archiving, those kinds of things?

**Brad McGehee:** That and, well, performance tuning kind of crosses borders because so much of performance tuning actually has to do with the application, how it was written originally. There are certain things I can do from the administrator's point of view like the indexing and maybe hardware that will help tuning, but most tuning problems I've seen are actually hardware, I mean code-related, bad stored procedures, a bad architecture in terms of design, in other words using cursive stored procedures, those kinds of things. So, I get into a lot of that whether I like to or not. A standard every day DBA, this is a term, when I think DBA, I think administrative DBA. If I want something else in terms of, first I would say, development DBA or database architect designer or BI personal reporting. So, the term DBA when I think of it, I always think of it as administrative DBA.

**Richard Campbell:** Right.

**Brad McGehee:** One thing that also I've been kind of looking at too is in terms of my research for the book is how much DBAs make.

**Richard Campbell:** Well, they are in demand, so in theory their wages must be going up.

**Brad McGehee:** Yeah, they are. Just a most recent survey done by [salary.com](http://www.salary.com) said that the average DBA in the United States, almost executive average in the United States in the entire 50 states, is \$86,789 per year, but the average salary for developers on the other hand is \$74,136 per year. So, definitely, it is an advantage to be a DBA over a developer.

**Greg Hughes:** If that's where your interest lies.

**Brad McGehee:** Something that you want to pursue is a course that you happen to enjoy. It also interests me though is like anything else that's an average and average numbers sometimes are kind of deceiving. What's interesting is that the top 10% of all DBAs earn over a \$108,000 a year, while the bottom 10% of all DBAs earned under \$65,000 per year. That's a pretty wide spread. That got me to thinking.

What differentiates those people? Why are some people making over a hundred grand, while other people are making \$50,000-\$60,000 a year or less? I sort of asked people and talked to people about that and what they saw, and looking into that and basically, what I've noticed is that people make big money, they are already considered professional DBAs. What I mean by that is basically a person who says, "Hey, I'm a DBA. This is my job, this is my career, this is what I want to pursue probably for the rest of my life. I want to be the best I can be at it and everything I can and do really great job. I'm really serious about being a DBA and all the responsibilities that a DBA has like protecting the data for an organization." If you're that kind of DBA, I will consider the nonprofessional DBA, it's not a very good term, I guess, I'm not sure how to best phrase other than that, because a DBA is a DBA by circumstance.

**Richard Campbell:** Casual DBA?

**Brad McGehee:** Yes, that's a DBA by accident.

**Greg Hughes:** Sort of, "Oh, by the way, we need you to do this as well."

**Brad McGehee:** Yes. For example you're a developer and now you need to be a DBA.

**Richard Campbell:** You were standing closest to the server when the last guy quit, now it's your job.

**Brad McGehee:** Right. The people just fall into it. Sometimes when the people follow into it, they recognized this is hey, something I want to do, and they become a professional DBA. A lot of them just do it because it is part of their job, in other words, they were told to do it, they just do it and those are the ones who don't make the big bucks because they know enough to get by, they don't take the opportunity to challenge themselves to learn not anything new and they just get by from day to day be sure as long as the server is up, they are happy because they're not going to be staying up all night, getting all the restoring going to the next day; but this is basically they don't know how to do anything proactive, they just side fires and a lot of them get stressed out because they don't know the job very well and maybe hate the job and want to do something else again like development which is also stressful.

**Greg Hughes:** Sounds a lot like what we used to call webmasters back in 1999 or so a few professionals are really innovating and sort of pushing the envelope and a lot of people that are columns off in webmaster and then a whole slew of different people in between in the web development world. We've seen that mature overtime and what do you see for the future of database administration? You



pointed out, you used your example of SQL Server, things will become significantly more complicated in that application especially in the most recent versions, all of these other ancillary apps attached to it, what's the specialization look like and what is the future of database administration?

**Brad McGehee:** Right now, Microsoft in their certification, they divide the specialization in three areas: the admin, development and the BI part. I think it is going to be needing more than that eventually because there are so many different areas that requires so much in depth knowledge; for example if a person you deals with thought tolerant and clustering and special to you and to itself, or even just how to optimize a database to run on various SAN devices is a specialty unto itself.

**Richard Campbell:** Is that really a job all by itself just tuning for SANs?

**Brad McGehee:** Would be that probably for a large company but with these consultants very often brought to do that kind of work.

**Richard Campbell:** Certainly high availability specialist I've seen.

**Brad McGehee:** Yeah, high availability specialist and now with report writing becoming more popular, becoming manage reporting services server and also the self designer reports managing those large organizations that can be very expensive and organizations that have many, many servers throughout their company that are preparing reports and that can be very high maintenance kind of an administrator work also in the organization. Coming back to my idea about the top members with the exception of the DBAs, the professional DBA versus the average DBA, what I like to do is we talk a little bit about how you can be removed from the average, non-average beginner of DBA to the more exceptional DBA.

**Richard Campbell:** Right. It's not that hard to become a beginner DBA. It was literally you were standing close to the server or you paid some interest to it, that's a pretty easy job to get. Now, how do I increase my income from nearly 50% and/or become a pro? What do I got to do?

**Brad McGehee:** Well, that's what I want to talk about because that is one thing that kind of fascinated me. I know what I've done personally. I also know a lot of Microsoft SQL Server MVPs which is all will be questioningly obviously professional category and there are certain characteristics that you'll see common throughout all Microsoft MVPs and all other professional DBAs and the very first one that seems to be really obvious but it is very important, is that you

have to love your work, to really enjoy that kind of work and that encompasses things like taking responsibility. If you are a good DBA, you want to protect the organization's data, that's your job.

**Richard Campbell:** Ultimately, you're taking on that responsibility.

**Brad McGehee:** Right. Most people don't realize they do that when they're DBAs but if you take that responsibility that involves a lot more than just an administrator at SQL Server. It involves a disaster recovery plan and actually practicing and making sure that they work. It involves making developers mad at you because you are enforcing security very strictly in your company, you won't let them in the production database and in all the politics involved with that, so you have to really know which one you want to do, you really have to enjoy that kind of work. You're a problem solver, you have to have the ability to work by yourself but also at the same time with teams. Most jobs I know, you got to do both of those.

**Richard Campbell:** It's like most of the time you're the only DBA in the company.

**Brad McGehee:** Yeah, very often you are the only DBA or maybe just a small DBA team and sometimes you're lump with the BI developers and sometimes you're lump with the IT grand type professionals; kind of varies from company to company. Quite often, you are separated from the developers. Ideally, probably it should be, in my opinion because you need the isolation between the two groups otherwise you're too cozy together and then you become lax and then it's starting to become an issue.

**Richard Campbell:** Ultimately developers are responsible for the fact that everybody's named John Smith, you are.

**Brad McGehee:** DBAs has a lot of responsibilities so they have to accept those responsibilities and consider it like a profession, and that it's staying course is I would say knowledge. The BI con and DBAs are self-taught. You have to read a lot, read magazines, read books, go to conferences, take classes, it's an ongoing process because every time a new version of SQL Server comes out, you don't know the facts. Some of you have five years conversions, next time three years, next time... and still not very much time to keep up.

**Richard Campbell:** There are some people complaining that three years was too little time. They want it longer.

**Brad McGehee:** Yes, I actually prefer it longer. I like four to five years scale myself. You try to keep



up but... I have to admit even now on SQL 2005 being now two years, I don't know it all either. I guess there's too much to it, I just don't have the time to sit down and practice everything I want to practice.

**Greg Hughes:** Yeah, there's a lot to know there.

**Brad McGehee:** They never ask like that which I found for professional DBAs, not only that they like to learn, but most of the professional DBAs also like to share the knowledge. In other words, most DBAs aren't... we seek about the knowledge; we really want to share and help others. They love, some of the developers, how to do things right. They love training new DBAs, help them along. Many are involved in the form, in answering questions, many are involved in local user groups or national user groups like PASS and that's where you see most of the professional DBAs, they are very active in the community. You will see a lot of professional DBAs who are very isolated, all by themselves not knowing what's going on in the world of SQL Server. There are a few out there I want to hear that "Let me know what a PASS is," which just kind of surprise me, but there are very few of them, most of them are really familiar with and very involved with the organization so they like to share information. Another thing that I suggest for DBA of course is to pick a long term to use a job and as probably any kind of DBA job, not only do you need to know your DBA job, you need to know your company's business really well. You need to know the data that is being stored on your databases and that's something that when we think about a lot, there are times that the actual content of the data in the database is in itself affect how you manage the data. So you need to know your organization, how it works and the kind of data that they do store, and one of the things I used to like to do is and it sounds like silly I guess maybe to some people, probably involving too for the dirtiest and hardest jobs when it came to IT and database. A couple of companies that I worked for as full-time DBA, we actually have multiple DBAs who are large enough to do that. It is the only job that people did not want to do. I do volunteer to do those and probably just put at because I want to learn everything about the environment. I also like to get the question to my bosses and managers but then I'm serious about doing a good job. Again, I'm one of the people who like to work 60 to 80 hours a week. I usually work 40 hours a week to get everything done I need to get done. Sometimes I got to go workaholic. I still want to do volunteering and saying, "Hey I can do this. I can do this." Even though I don't know how to do it, it's going to force me to learn something new.

**Richard Campbell:** Still, I got to think as a DBA, there's the occasional all-nighter. If the server has taken a header and you are in a disaster recovery

mode, you have to keep on working until the job's done.

**Brad McGehee:** Yes. That's another thing, too. You got to be persistent and have this level of professionalism where, again, you get the job done no matter what it takes. I've been doing that a number of times. Whatever reason we have, a hardware failure or other kind of a problem and then you start the restore process and you have more problems and more problems and more problems and 24, 36, 48 hours later, before they're all solved and you can't stop. I've gone to that a couple of different times.

**Richard Campbell:** Anything that's sort of an IT mentality which is there is always going to be a crisis and we're going to work extended hours which means we shouldn't be doing it routinely. It you can't tell the difference between your day-to-day work and the emergency work, you've got a problem.

**Brad McGehee:** I think that most professional DBAs are also going to very proactive in their job and will kind of prevent problems. One of the things that I was very proud of in the last company that I worked for where my boss told me several times is that you could be independent, my server should always be up and running. This sounds kind of boring.

**Richard Campbell:** It is also probably the highest compliment as an IT person. You can be paid.

**Brad McGehee:** Yeah, I think so too. I never had any complaint, the server was never down, always run nice and smoothly. People have access to it and everything seems to run very smoothly. For example, we had another DBA in the company and he was having problems constantly, the server is up and down all the time for a variety of different reasons and they --again, it seems very boring in many ways to have servers running smooth all the time, but that's what you want your life to be as a professional DBA. You want to be proactive. If problems don't come up in the first place, if things looked nice and smoothly and you don't have any problem, you're not in this crisis mode all the time trying to stop a problem, so you can sit back and relax and think about how would I solve this problem rather than in crisis mode where you had to jump in and just fight a problem and try everything you can until it works.

**Greg Hughes:** That certainly provides you an opportunity for doing your continuing education if you're not spending time fighting fires all the time and you're able to prepare for the next set of technology or the next application that needs to be worked.

**Brad McGehee:** Exactly. Another thing of course that most professional DBAs is they will keep up on the new technology. For example, they will go



out and download SQL Server 2008 and run the virtual machines and start learning how it works. That's going to be available some time about the next year or so. Hopefully, they will up to speed on the product already. The same thing at PASS this month in Denver, there'll be a lot of sessions on 2008 because Microsoft wants everybody as much as they can on the product and also to provide last minute feedback during the day process.

**Greg Hughes:** So, Brad, I've sort of worn three big hats here all of which has some very definite ties to database servers, a lot of them Microsoft SQL Servers. First one is as a professional IT manager and running the shop and having managed teams that are running a lot of applications but also as a development manager and managing DBAs and developers that really need to understand databases because they're talking to them and especially when it comes to design which kind of leads to my third card there, my third hat which as a security professional and I can tell you that in those roles I've seen an awful lot of junk out there, forgive the term, but just very messy or very sloppy and a lot of insecure database design programming on a database and in a database, I wonder if you have some thoughts about that especially in this day and age where I think a lot of databases are being interfaced by web applications that are on the public internet or on extranet, what's the most important things that database professionals need to be thinking about and really need to be aware of today?

**Brad McGehee:** The ideal situation would be is for the DBAs to work with the developers during the actual development process. At first that it didn't happen as much as it should because initially the DBAs know about the security and knows about database design, what is then the ideal performance. So often I see in so many shops is that the DBAs, these administrative DBAs often don't get involved until after the application is in testing or in production, and that's where all the problems occur either with forming security or whatever.

**Richard Campbell:** Then it becomes the DBAs fault that the app is late because they haven't secured it properly, they are not managing data in a safe way.

**Brad McGehee:** I think the DBA needs to get involved earlier and who is designing the application and the product manager or whoever is in charge needs to have the mystery DBA on the team, it may not be a full-time job so long as you can watch what's going on, see the design, look at the prototype as they come through and they provide feedback what needs to be done if it's not being done right away so it can be fixed before it actually becomes a problem. I've seen many application that they said have version that have no security because the developers doesn't

want to learn how to use security, I mean it's a pain in the neck. What they often do was just they sell it for everybody and use that essay equivalent type of account where your equivalent type account allow everybody to the database which of course is a disaster when it comes to a security. Of course security is a tough thing to do. One thing that I'm always fighting with my developer is security because we have a development database, we have test database and we have production database and each of them had a different set of security. Obviously in the developer's side, we give them more security, more ability than normal so you can create objects and test them, and practice and play with things, whatever. So things were test out and moved over to testing environment which is simulated to real environment with much harder security but increase often, but what happens is this thing will break in because the developer cannot consider security at all in the first place. So when we started to put security into it, things didn't work when they're expected to work and was at some point when all these problems worked out and moved to production, even then we probably make the security a little tighter at that point so only thing you need to plug in is the actual users. Test machines that have testers and DBA and maybe some developers into it at a certain degree. I think getting a DBA in early would help lot of jobs.

**Richard Campbell:** So, from the DBA's point of view, the idea of pushing on, I want to be on the team, I want to be in those meetings, I want to have an opportunity to influence the design early.

**Brad McGehee:** Yes.

**Greg Hughes:** Exactly.

**Brad McGehee:** So many times I've heard that exact same thing. A DBA would say, "If you only asked me ahead of time, I could have told you how to prevent this problem and saved you a lot of money and time." It's always too late at that point because a lot of times, the application is now in production and all I can do is start patching and do everything to fix it. Of course, it is running until I get a chance to go the next cycle and perhaps get it redesign and fix it the way it should actually be fix. This way they need to be a lot more up front.

**Greg Hughes:** One of the I think important messages I know in my experience for the developers out there is that store procedures can be your absolute best friend from a security standpoint. They can also be truly your worst enemy and design; I think you're absolutely right, the design phase is absolutely critical to have database engineers, designers and administrators involved in the process.



**Brad McGehee:** One thing that I used to do too is about once a year I used to give a half day training session to the developers on DBA task stuff which nobody can say if it's enough or not. It's hard not to get the data and not going, and most of the stuff is preparation before coming to a session, they got to the bosses and, "Hey you have this problem throughout the year, you get me new developers on the team constantly. They don't have a good background databases. We still need to teach them something basic." So we start, the manager usually force the developer to issue new ones to come and spend his half a day once a year which is not a whole lot of course, which is better nothing so the most obvious problem that you see over and over again that the developers make, the common mistakes and all these exist if he on duty kind of thing. That was small attempt, it was helpful though, but again it's very small I can see more that go on. Usually developers just don't know databases and it's all their fault. Hey, just smell like anything else, we'll have on our own the amount of time that we can stand doing or learning our tasks and somehow or the other we have to kind of break down those responsibilities a little bit better than we do now so you can talk to each other a little better so developers know how to access databases the proper method. Next is back again to help to define what the DBA role actually are, what of this is what DBA does, what does all the DBA does, and BI and reporting and so forth. I think that will help differentiate what kind of jobs are on with responsibilities are.

**Richard Campbell:** The PASS Conference is coming up, isn't it? In fact, I think when this show goes live, PASS will be going on. It's in Denver this year?

**Brad McGehee:** Yes, in Denver. It starts a week from next Monday.

**Richard Campbell:** So, September 18th to 21st.

**Brad McGehee:** Yes.

**Richard Campbell:** And the PASS website?

**Brad McGehee:** Yes, that's at pass.org.

**Richard Campbell:** Or [sqlpass.org](http://sqlpass.org).

**Brad McGehee:** That's right, that's right, [sqlpass.org](http://sqlpass.org).

**Richard Campbell:** [Sqlpass.org](http://Sqlpass.org). Our guest had been Brad McGehee, and Brad thanks very much for coming on the show. Really appreciate your thoughts around DBA education.

**Greg Hughes:** Thanks Brad.

**Brad McGehee:** Hey, thank you very much for your time.

**Richard Campbell:** And we'll talk to you next week on RunAs Radio.