RunAs Radio

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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.

Text Transcript of Show #113
(Transcription services provided by PWOP Productions)

Ken Brumfield on the Challenges of Really Large Infrastructure!
June 10, 2009

[Music]

Brandon Wenn: From runasradio.com, you're listening to RunAs Radio, the Internet audio talk show for IT professionals with Richard Campbell and Greg Hughes. This is Brandon Wenn, announcing show #113, with guest Ken Brumfield, recorded Thursday, April 21, 2009. RunAs Radio is produced each week by PWOP Productions, providing professional media and podcasting services online at pwop.com. You can follow the boys on Twitter at twitter.com/runasradio.

Richard Campbell: Thank you very much. This is Richard Campbell and with me as always, my co-host Greg Hughes.

Greg Hughes: Hi, Richard. Hi, everybody. Great day today.

Richard Campbell: Absolutely, always a fun day and guess what? Renovation? A lmost finished. We're moving into the house.

Greg Hughes: Sweet.

Richard Campbell: It's only been 16 months, you know.

Greg Hughes: Very, very cool.

Richard Campbell: This is what happens when you have a wife who is also a project manager although she's in the garment industry versus being in the software industry.

Greg Hughes: Right.

Richard Campbell: We both appreciate the iron triangle of time and quality and cost…

Greg Hughes: Yup.

Richard Campbell: And so we wanted to maintain the quality and we wanted to keep the budget under control which meant we went five months longer.

Greg Hughes: Right.

Richard Campbell: But we're okay with it, you know. Nobody is surprised. Everything is good so I'm pretty happy with the project and it's nice to be getting home finally.

Greg Hughes: Very cool.

Richard Campbell: All right, let's dive right in with our guest here. Ken Brumfield is with Premier Field Engineering based in New York working with some very large enterprises in multiple sectors. His main focus these days is solutions for driving operational health at customer sites. He works in Identity Management space and spending a lot of time ensuring stability and performance of globally dispersed environments. He has made number of tools that are available in codeplex.com for people that need to maintain Active Directory. Welcome, Ken.

Greg Hughes: Hi, Ken.

Ken Brumfield: Thank you, thank you very much for having me.

Richard Campbell: Our pleasure. The PFEs are our friends, we've come to appreciate this. If you are the guys out in the field making stuff work, then it's really interesting to get your insights on how you're solving problems.

Ken Brumfield: Yeah. I love being out in the field. It's working with customers on a day-to-day basis that really helps me understand the difference between where we would like to be and the challenges that they have to live within.

Greg Hughes: Sure.

Richard Campbell: You're working with enterprises. When we talk about big enterprises, maybe we shouldn't name names here, but what's big to you?

Ken Brumfield: Well, most recently, over the past three years, I've been working with customers that are 250,000 seats and up.

Richard Campbell: Ouch.

Greg Hughes: Great big enterprises.

Ken Brumfield: Yup, very big.

Richard Campbell: And like you said in your bio, globally dispersed, so they're not just all in New York?

Ken Brumfield: Correct, correct. I'm based out of New York but the PFE team is global and I work with my peers all throughout the world and help them with some of the challenges they faced with their customers. Part of this comes through the tools I've written for Active Directory, and part of it comes through my operational background as well.

Richard Campbell: Cool. So what changes when you're talking about a quarter million seats in terms of management, and is this really a client problem or server problem, like what's your challenge here?

Ken Brumfield: There are a lot of challenges actually. When someone goes can you get this data, it completely changes the picture. When you have to replicate and get this data across 40,000 servers, across 250,000 clients, it makes it very challenging to turn things around on the dime like that. Some of it is the tools aren't out there to handle environments that size and part of that is because there's a very small subset of customers that reach that scale. So it's very hard to build that lab to test applications of vendors put together to scale to environments that size.

Greg Hughes: Yeah.

Ken Brumfield: But the other part of it too is a lot of us tend to focus on when we're troubleshooting. This one box is broken.

Richard Campbell: Right.

Ken Brumfield: So I'm going to fix this box and I really don't care if this is scalable to the rest of the systems in the enterprise or on the platform or whatever view you have of it. So a lot of where I try to bring that knowledge in is try and make processes reputable.

Richard Campbell: Right. Well, I'm just thinking if I have 40,000 servers, I'm not RDP-ing into them one at a time.

Greg Hughes: Probably not.

Ken Brumfield: You'd be surprised to how some stuff gets done. The challenge being is that the tools aren't necessarily really there to quickly do it any other way.

Richard Campbell: What does an AD infrastructure look like in that scale? Like I don't want to see 40,000 servers in my network neighborhood. That would be bad.

Ken Brumfield: Well, that's the end-user experience and that's a function of NetBIOS browsing which is kind of going away and there's a lot of infrastructures out there that even in smaller scales, tens of thousands of seats, that really don't do a whole lot of automation to remove that experience from the user. It's interesting how a lot of companies still expect the users to be able to find something in that environment and the tools to deliver those services to users just really aren't prepared. I've seen time and time again in desktop migration scenarios where you have a large quantity of users who end up not having all their drives remapped after the migration because their persistently mapped, because some help desk technician went over there and right click…

Greg Hughes: Didn't map this drive.

Ken Brumfield: And then all of a sudden the help desk call comes back in on the backend and says, hey, I can't get to this file. Well, I don't know where it is, it's just been there.

Greg Hughes: Right.

Richard Campbell: Yeah, of course your customer doesn't know that it's just a dried mapping issue. They just went away.

Greg Hughes: Yeah. Where is my Z drive, yeah.

Ken Brumfield: Exactly. A lot of my work really tends to be more on the backend infrastructure making sure that the services are there to provide as much transparency to a client as possible and when you start to see these large enterprises, what you see are multiple directory services, multiple platforms of directory services, and multiple users IDs, and multiple -- or the consistent user IDs but multiple passwords because of the different identity management infrastructures and that makes a really miserable experience for users.

Greg Hughes: You're saying you might have an active directory or even competing active directories out there, you might have Novel directories or other types of services that are completely different platforms and how do you make those work together, is that the kind of experience you're talking about?

Ken Brumfield: Well, it's not just making them work together. It's making them work together in a way that's transparent to the end-user and that's where a big challenge comes in.

Richard Campbell: Right. I just suddenly had this vision of that tech support guy that went into the customer's machine and fixed it for them didn't know he was going to create grief going further down the line, like once you get to the scale onsite touches suddenly become bad. You want them always managed and profiled and things like that so that they do survive from year to year.

Greg Hughes: Yeah. A great example of tactical solution becoming a strategic problem there.

Ken Brumfield: Well, then there's a flip side of that coin when you're dealing with a large enterprise. If you look at every solution as strategic, nothing ever would get done.

Richard Campbell: Right. Why can't I just go out and help the guy? Why do I have to go through this whole process?

Greg Hughes: Right, right. Yup, good point.

Ken Brumfield: Yeah, exactly. Why should getting this guy access to this file be escalated to engineering and all sorts of different other internal groups and take three days?

Richard Campbell: Yeah.

Ken Brumfield: A unique challenge. Then the challenge that you have on top of that too is when you're running a business, whether it's an IT business or a retail business or whatever other sort of business you're doing, you need to be able to measure the service you're delivering.

Richard Campbell: Right.

Ken Brumfield: And when you start looking at this multiple directory infrastructures, these numbers of scale, it's very difficult to actually figure out what's happening. Part of that is because the tools aren't there, part of it is because the methodologies aren't well practiced, but that's where I've been doing a lot of my work over the last couple of years and really it's been using the tools that exist in ways that allow us to actually measure what's going on in the larger enterprise in terms of identity management.

Greg Hughes: So what does that mean? Give some examples of how you use these tools and what is it that you're really focused on. Maybe that will help us to better understand what are the real world problems that you're solving.

Ken Brumfield: So coming from a Microsoft world, I obviously know the Microsoft tools and products best. When I talk about like doing this in scale, what I need to be looking at is Business Intelligence tools. That's really pointing us to tools like SQL Server Reporting Services, SQL Server Analysis Services, and when you start looking at, let's say something simple like costing, how much of impact user password is changing or having to be reset by the help desk guy in a large enterprise. That information comes from a large quantity of different sources. It can come from security events, they can come from help desk data, and then one of the things that you have too is you have your shadow account password resets where user goes down to local help desk guy or a local SA and the ticket never gets open. So that's why you have to look at these multiple data sets and your security data as one of your help desk tracking. That starts to help you get numbers about what the real cost is which you should get from your security audit data versus what your known cost is which is what you're staffing for in the help desk plus which your shadow cost, and the real big danger with the shadow too is that you're really looking at things that are bypassing your security system about passwords, user accounts being reset. In other words, is there justification for these people to be doing this behind the scenes and is something nefarious going on. Not to get overly paranoid but that's always a risk.

Greg Hughes: Or can something nefarious go on based on the fact that it can be done.

Ken Brumfield: Exactly.

Greg Hughes: How do you know what you don't know.

Ken Brumfield: Right and really when you're dealing with scale, the only way to do that is to start using the tools that we have available which are the BI solutions.

Richard Campbell: So literally this is an IT reporting system on your IT infrastructure.

Ken Brumfield: Exactly. Why are we just using BI in line with the business? Why weren't using BI in the back office.

Richard Campbell: Yeah, to better understand our own system. Reports above reports.

Greg Hughes: Sure.

Ken Brumfield: Exactly.

Greg Hughes: It's the meeting to plan the meeting and the report to report on a report.

Richard Campbell: Oh nice, yeah.

Ken Brumfield: Pictures are very important too.

Greg Hughes: IT being, you know, and especially over the last several years as IT has been elevated more and more towards a first class participant in the business process; IT departments, management, and people have started to see the real value in doing that kind of analysis.

Ken Brumfield: Definitely and when you can get this data to the people who need to make the decision, it enables them to actually start looking at their environment in the large scale like they need to instead of worrying about which server is down and which bunch of users are hot because of that.

Greg Hughes: Right.

Ken Brumfield: So that they can make those decisions at a more strategic level.

Greg Hughes: Certainly a lot of it is your first CFO to have some numbers in front of him or her to justify why it is that you need to: A) Hire another help desk person or service desk person in order to answer these calls; or B) Invest in infrastructure to reduce the load on the help desk much more so than the IT manager or director walking in and saying just give me the money, I just need it..

Ken Brumfield: Correct and then you start looking at topics like account provisioning, de-provisioning, how many labor hours are incurred during that, what's the cost of your approval process. All very exciting stuff for any technologies, but very significant impact on the way the business operates.

Greg Hughes: Sure, absolutely.

Richard Campbell: Yeah, these are great. I always did well in the boardroom for these kinds of things. You could figure out, hey, every time we change passwords, it's cost us this many thousands of dollars both in the cost of text support guys helping these people and loss productivity of those people while they're waiting to be helped.

Greg Hughes: Right. The opportunity cost, absolutely.

Richard Campbell: Suddenly the cost of the tools to automate these stuff and the resources to make that smooth are cheap compared to that impact.

Ken Brumfield: Exactly. One of the analysis I've done for a couple of different environment is what's the rate of account lock outs in relation to the amount of password that has to be changed on a daily basis.

Richard Campbell: Right.

Ken Brumfield: If a lot of companies have password policies, a lot don't which is equally scary.

Greg Hughes: Right.

Ken Brumfield: But those password history policies, when people have to change their passwords people are going to mess that up; and the rate I've managed to calculate from the environments I've looked at is about 10% of all the accounts that would have to change their password on any given day, end up locking themselves up.

Richard Campbell: Wow.

Ken Brumfield: And if you're looking at say a thousand password resets today, that's a hundred accounts that locked themselves out.

Richard Campbell: Right.

Ken Brumfield: People garner a number of $10 to $31 per user ID problem that the help desk have to support whether through an automated solution or a direct phone call. You're looking at a spend of between $10,000 and $30,000 a day just to deal with the account lock outs that happen as a result of a password change policy.

Greg Hughes: Yeah.

Ken Brumfield: Nothing is wrong with the password change policy but it's just business. There's a number associated with that.

Richard Campbell: Isn't this just making a great case for smart cards?

Ken Brumfield: Well, then you have to have your bypass systems and you have to worry about all the facts that the users are going to remember their smart codes.

Richard Campbell: Right.

Ken Brumfield: But these are the sort of numbers you need to look at for smart card system.

Richard Campbell: Yeah, why it matters.

Greg Hughes: So to take your hypothetical here or semi-hypothetical and talk about a common solution for that. It sounds like you have some pretty predictable numbers for what you see out there. What are the predictably effective solutions to this problem?

Ken Brumfield: Well, you have the ability to lower the volume of your account lock outs by either extending your password change frequency. Windows 2008 has some granularity which allows you to change, your password change frequency based on group membership so you might be more restrictive on your admins, less restrictive on your lower risk users and that would allow you to minimize those costs across the enterprise without really effectively compromising the overall cost. It gets you away from that one size fits all solution.

Richard Campbell: Right.

Greg Hughes: Sure. In other words, yeah, you have improved the usability of the system in a way that works for the user, sure. I know, Richard, I think we talked about it once that one of the things that we decided to do several years ago in an IT department was to change the password expiration from 60 days to 42 days. People said that they thought it would actually result in more calls to the

help desk but it actually resulted in less simply because it was a multiple of seven and we stop getting calls on the weekends…

Richard Campbell: Right.

Greg Hughes: Because if it expires on the same day during the week each time that you do a reset, because we found out that most of our calls were coming on the weekends.

Richard Campbell: Yeah, that's where you've got to agree because the guy can't help himself so it's an interesting problem, and you know, getting back to this whole point of these really large infrastructures you're dealing with here, Ken, the scale represents a multiple occasion of the pain. This is pain we have with 100 users and it's manageable, but when it's 100,000 users it's a huge cost sink.

Ken Brumfield: I would argue that it's not so much that it's manageable as it's not cost-effective to implement an automated password reset solution when you have 100 users as it is when you have 500,000.

Greg Hughes: Sure.

Richard Campbell: Right.

Greg Hughes: If the cost of the software is pretty comfortable for each of those two situations, then you're going to get more bang for you buck when you spend it in the larger volume environment.

Ken Brumfield: Exactly. So we're still working within that BI space though it's not just the identity management aspect of these two but it's also the manageability of the system. When you're looking at back-end products that collect configurations of the system, etc, when you're looking at having to make sure the systems are performing properly, I don't know how many of the listeners have actually used PerfMon, but if you try and add data from three or four different servers and look at the processors say across 10 servers, it's a very tedious exercise; but when you start using BI and back-ending it against an application like SCOM you can start to look at the servers in scale, you can start to look at your trend analysis of processor load overtime whether or not it's growing and trending up and you might need the capacity plan, or whether or not all of the servers are running at the same equivalent load, or whether or not you have a hot spot during the day that you need to capacity plan for. It's not uncommon where I've seen environments where you have 40 servers servicing a web-based app or some sort of application which peak between say 9:00 and 10:00 in the morning.

Richard Campbell: Right.

Greg Hughes: Yeah.

Ken Brumfield: And they're 50% busier between 9:00 and 10:00 in the morning than any other time of the day.

Greg Hughes: Sure.

Ken Brumfield: But to catch that using something like PerfMon without having some sort of automated back-end data where housing type scenario starts to become very expensive and very tedious.

Greg Hughes: Right, right.

Richard Campbell: So doesn't MOM take care of this, the operations managing tools? Does it not just roll in this whole scenario?

Ken Brumfield: Yes, it does but what it looks for is have these systems exceeded their thresholds.

Richard Campbell: Right.

Ken Brumfield: That doesn't give me business intelligence. That doesn't let me know when my systems are the busiest. That doesn't let me know that I should have my staff between 7:00 and 10:00 in the morning to handle urgent issues. That doesn't let me know I shouldn't plan a meeting for 10:00 a.m. otherwise I run the risk of losing that to a production, a major production knowledge. That doesn't help me plan my green zones on the server.

Richard Campbell: Yeah. You know, you spend a lot of time as an IT manager at least. What is the best time for us to do management on our servers? Can we take a year down or do an upgrade, those sorts of things. I've got plenty of sites where weekends they're not just an option. Weekends are peak time and you've got to leave the machines alone. You've got to be very sure that everything is stable there. We ended up having guys take their day-offs on Mondays and Tuesdays because it's quiet.

Ken Brumfield: Exactly and that's the point. We're trying to -- it's about trying to move the capacity planning and the understanding of the business from the frontline tech guy up a level or two to the IT managers who need to be able to make these decisions and work with the businesses.

Richard Campbell: Right. You give me a sense here of I know what I want to do but there's no tooling specifically around this. This is up to me to build these things?

Ken Brumfield: Well, SCOM actually does an excellent job of this. It collects a lot of the data and it's got some good reporting in it but it doesn't necessarily work for every environment.

Richard Campbell: And we need to define SCOM for those who don't know what it is.

Ken Brumfield: Ah yes, System Center Operations Manager.

Richard Campbell: Right.

Ken Brumfield: The power onto Microsoft operations manager.

Richard Campbell: Right.

Ken Brumfield: So correct, it's not -- the tool is there, the data collection is there, the engine is there to get the data you need, and not everyone wants to look at data in the same way which is why I really like the Microsoft BI stack because it's so easy for me to throw together a report, it's so easy for me to train a customer to throw together a report. Now, it might not be the prettiest SQL code in the world but it's functional and they can get the data that they need a lot faster and regularly and repetitively and share it with other people in the organization in the way that they didn't have an ability before this.

Richard Campbell: Yeah, absolutely but I also think you've got to go -- when you look beyond SCOM, it's things like your help desk reporting into this like the heartbeat of the help desk is a huge measure of that sort of thing.

Ken Brumfield: Correct and you definitely need to integrate this dataset and that's where, again, where the BI-type concepts become very valuable.

Richard Campbell: Right.

Ken Brumfield: Because you have multiple back-end data sources that you can bring together in one report.

Richard Campbell: Well, and then you tie that in with, okay, we obviously see we have a huge help desk kits on Monday morning. Why? And that's when you suddenly reveal this everybody's password expired over the weekend.

Ken Brumfield: Exactly and in some fashion too, it allows the IT department to become a service provider.

Richard Campbell: Right.

Ken Brumfield: If you have a help desk organization that's distributed, they don't necessarily all use the same software or all use, tie into one single system but when you can look at the backend and say, hmm, we're seeing this many security events related to password resets, the common logs, and you're data is not lining up with that, what's going on here, are you actually staffing appropriately across the regions.

Richard Campbell: Oh, I see. Right, yeah. It's interesting to see how all these things affect each other and can you actually have the stuff balance properly.

Ken Brumfield: Right and one of the other scenarios is it's still respectively, I guess in the BI world, it's real-time notifications. When you have the identity management dates, you've got this concept of things called service accounts or functional accounts or generic ID that applications that may service thousands of users depend on in order to get access to network resources. In addition to that, what you have is the ability to become a service provider of sorts. When you're managing in your identity in the identity space and you're tracking what's going on with accounts and locking, account blocking, passwords being reset, you can use these tools like SCOM, etc, to push that information out to the owners of these IDs. In that way, what you're doing is you're delivering real-time notifications to the business of when something happens in the important component of their system which they may not have visibility into because they're not going to know from the server side that the account has been locked in AD. They'll just know that all of a sudden some piece of it will break.

Richard Campbell: Right and what that actually is, especially we get into the local machine log-ins and things like that where people can really get confused as to what's broken and what isn't.

Ken Brumfield: Right and then it also becomes a troubleshooting effort to find out as oppose to an integration of monitoring systems to share with each other what's going on.

Richard Campbell: When you're dealing with these sort of globally distributing companies and then it's multiple datacenters, I mean I don't think we have anybody who's got a datacenter with 40,000 machines and they're all in one place, how much does the remoteness complicate this? Do you consolidate the data in a given datacenter and then move it to one central location, or do you pull everything simultaneously like I'm just thinking you're getting into that measurement effect where the process of managing this creates more problems?

Ken Brumfield: Yeah, and that's always the challenge. The question in my mind is is this good process to have? Is this good overhead? And sometimes it's no, and when you're dealing with groups that are globally distributed they're always at different levels, different skill levels, different levels of the OS, and different levels of operational maturity, and in a way this BI becomes a tool to bring them all up to a consistent level because a lot of people start looking at this and go, ooh, I want that, and then you can start figuring out how to get that data from all of the regions and all of the different operational groups. Sometimes it's about having multiple systems and time them in together using the functionality of SQL Server Reporting Services to look at multiple backend databases. Sometimes it's about replicating all that data to an essential group location based on what's needed to run a report globally, but there's proxibility within the product suites that allow you to actually do that.

Richard Campbell: Yeah. Maybe there's a better third party tooling around this sort of thing. Now I start thinking about stuff like good old Tivoli and OpenView and the like.

Ken Brumfield: Those are very good products, but again it's not necessarily the tool that you use to collect those data that matters.

Richard Campbell: Right.

Ken Brumfield: It's the ability to get to that data on the back-end.

Richard Campbell: And again combining all those multiple sources together, the actual state of the servers with sort of the policies being taken say on the AD-side with the impact on help desk. What are the key elements that we've got here that you want to mix together to actually just get a picture?

Ken Brumfield: Well, the other half of this that I spent a lot of time working with is performance because I run into -- and it's a passion of mine and I've seen customers run time and time again into a performance issue that just have it and then we start looking back at data, it's been going on for a long, long time.

Richard Campbell: Oh yeah.

Ken Brumfield: So it's also about taking that information throughout the regions to make sure that all the systems are operating properly as well.

Richard Campbell: Yeah. It's funny how often after a failure we go back to the event log and see there are servers that have been telling us it was going to die for months.

Ken Brumfield: Right, exactly and when you see that stuff it's hard to say, hey, you guys have had this problem for months at a time.

Richard Campbell: Yeah.

Ken Brumfield: You haven't caught it to-date so it's not something that changed last Tuesday. It's something that changed three months ago that start causing this problem that for whatever reason just hit you last Tuesday.

Richard Campbell: Right. The stars aligned last Tuesday and that error or that issue finally came to fruition in the form of something serious.

Ken Brumfield: Right and that's another space that having this data historically becomes very valuable, having SCOM or some other monitoring software in there collecting this history so that you can go back and look at it and say, well, it just went over the flow hump or the stars along just write on last Tuesday to cause this overall issue. Sometimes it's interesting though trying to troubleshoot that because the focus is on what star changed, what was the last star to align when you need and you have to put the time and effort into having those conversations, say it's not the last star, it's let's get everything else fixed so that that last piece doesn't matter.

Richard Campbell: This all seem very familiar to me and it suddenly hit me there was an issue inside of Microsoft called the dynamic systems initiative. I don't know but it's certainly gone away. I just went and poked at the Microsoft site and the page is still there but it seems dated.

Ken Brumfield: Does that have to do with the wrap and deployment of the death tabs and configuration of the client-side?

Richard Campbell: That's sort of core infrastructure stuff and then business productivity stuff. It seems like it's what we're talking about.

Ken Brumfield: Ah yes, okay. It really is. The challenge you find in a lot of -- that I find in a lot of environment is there's a lot of operational maturity that is not allowing them to get from the real world and challenges to the pi and the sky ideal and I don't mean pi in the sky ideal in that it's a pi in the sky concept but I mean that in the eyes of the person who is so embedded in day-to-day downtime angry customers. It's really hard for them to start looking that far ahead to go through the learning curve necessary to mature their operations at that level.

Richard Campbell: Yeah, start answering questions like when are we going to need to provision

more servers and yet anticipating need rather than just fire-fighting the pain of today.

Ken Brumfield: Exactly and one of the other challenges I find too is that a lot of environments, a lot of people go with the best intentions to drive towards that DSI ideal. They buy them software to do it, they start doing some work towards that, implement some of the software, but without being committed to it it sometimes happen that they get distracted along the way.

Richard Campbell: Right.

Ken Brumfield: So the software is bought and it's doing all those great stuff collecting these data but either the user interface is so cumbersome to use or they don't have the time to look at the data and when they do have the data they might not know what to do with it and so these are all the sorts of things that I spend a lot of my time working with customers to really show them the value of building. It's not just buying the tool, it's not just going with the strategies, it's about building it into your day-to-day life to actually leverage it.

Richard Campbell: I'm falling into caveat's thinking, the whole seven habits mindset of this is quadrant 2 stuff, this is preventative stuff that makes the crises diminish but it's just too easy to fall into that sort of quadrant 3 what is proximate and pressing and do you know the phone ringing at you is what we get caught up in as IT folks. Solve the problem today, not recognizing it's just creating more problems for tomorrow.

Greg Hughes: Right.

Ken Brumfield: Exactly. You're thinking tactically when you need to and you're not giving yourself time to think on a more strategic level.

Richard Campbell: Right. Well, and all these large scale things do is amplify that.

Ken Brumfield: Right.

Richard Campbell: I don't think this is really scale dependent. It's just that when you have 250,000 users that you mess up the security policy on, you really hear about it.

Greg Hughes: Yes, you do.

Ken Brumfield: That's exactly the case, but the other side of that too is when you want to see which of the 250,000 seats have a configuration and which don't, it takes a very long time to be able to mine through all that data as well.

Richard Campbell: Awesome.

Ken Brumfield: That's where some of my tools on CodePlex actually comes from. Sometimes it takes a very long time to mine through the data to get the answers for it and that's where I put together some Active Directory related things that are really there to help people automate some of the analysis of what's going on in their environment to save them the time especially in large environments.

Richard Campbell: What tools should we look at here that you've got on CodePlex?

Ken Brumfield: The project name is Active Directory Utils, so codeplex.com/ActiveDirectoryUtils. I've got a replication diagnostic tool. It's kind of like Repadmin but it also does a lot of the filtering out of the known good states.

Richard Campbell: Right.

Ken Brumfield: And this has grown out of my experience in working and troubleshooting with customers' replication issues because Repadmin returns everything that's going on and really people who don't live, eat, and breath that stuff need to know what do I need to worry about. So there's another tool called Check the Active that is up on Active Directory Utils. It's there because I dealt with customer after customer after customer that said how can I get a list of what my permissions are in the directory.

Richard Campbell: Right.

Ken Brumfield: So it outputs them in a very nice CSV format which allows you to encode it and take salary database and manipulate it there. The challenge is when I was dealing with a lot of customers, they each wanted to do slightly different things with the data.

Richard Campbell: Right.

Ken Brumfield: So what I really focused on is what's getting the data out in the fashion that could be data mined more than it was doing any sort of analysis.

Richard Campbell: Yeah, right. You're really distilling down Active Directory data that reads and reads about a common format that could be pick up by a BI tool, no problem.

Ken Brumfield: Exactly.

Richard Campbell: So you've got the transformed part of BI construction here in these tools to get all this data out.

Ken Brumfield: Exactly. I have another thing I'm messing around with. They're called AD Reports which -- that a lot it reports on the back-end of the Active Directory utilities but what it does is it allows you to use SQL Server Reporting Services to take the output of those things which is inputting in a nice table and use that to view the status of your enterprise.

Richard Campbell: Cool.

Ken Brumfield: And the big reason I picked SQL Server Reporting Services was because I can use this to schedule notifications that come into administrator's inbox every morning so that they have all the data they need to look at for the help of their environment on a daily basis, or for the configuration of their environment on a daily basis. It's still pretty immature but it's an open source project that I'm just having some fun with.

Greg Hughes: Cool.

Richard Campbell: It sounds like stuff that people could contribute to. If you've got this scale problems, these are the tools you need to start constructing that information system about your information system so really key ingredients.

Ken Brumfield: Exactly and there's a couple of folks on the PFE team that I work with who have actually contributed to these tools as well.

Richard Campbell: Cool.

Ken Brumfield: And I'm always inviting more folks to join so that's why it's out there and it's an open source, get the community contributing to help in the community.

Richard Campbell: Fantastic. Hey Ken, we're about out of time. Any last words before we wrap up?

Ken Brumfield: It's been a fascinating journey figuring out how to leverage what we're talking about in the Microsoft space. These great BI tools to enable your business and taking these BI tools and bringing this to customers to show them how to run their IT business so just using them to support their end-users, they're now using it to support themselves.

Richard Campbell: Right.

Ken Brumfield: And that has been a really interesting and fun learning curve.

Richard Campbell: Yeah, awesome stuff. I keep thinking dashboard for IT, great idea.

Ken Brumfield: Ideally that's like where I'd like to get to but, hey, at some point in time I'm sure we'll figure that out.

Richard Campbell: Yeah, one step at a time. Ken Brumfield, thanks so much for coming on the show.

Greg Hughes: Thanks.

Ken Brumfield: Very welcome. It's been a pleasure.

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