IBM Podcast

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WEN:        Welcome to this IBM podcast series, the IBM
WebSphere SOA appliances for optimizing your SOA.  Today's
fourth installment of the podcast series is a conversation
again with Steve Craggs with Lustratus Research and Ben Wen
on how to leverage SOA appliances to optimize the
scalability, security and cost in an SOA project.  I'm Ben
Wen with IBM.  And hello, Steve, again, welcome back to the
podcast.  And thank you all for listening.

CRAGGS:     Glad to be back Ben.

WEN:        Great.  In this fourth of the series, I'd like
to continue our conversation but talk of an overview of how
scalability, security and cost are concerned and how
appliances can help mitigate those concerns and deliver
value for implementing an SOA.

As we've talked before, the Craggs SOA adoption paradox
includes these three components.  Maybe you could give us a
quick overview of them, and then we'll talk about each of
them in detail and how SOA appliances can help.

CRAGGS:     Sure, Ben, yes.  So we work with lots of

customers about SOA, and we've been doing that 20 years now.  And we came up with three reasons that sometimes customers can find that the benefits being delivered are not quite matching up to their expectations.  And we call them paradoxes because they really are tradeoffs.

The first one is scale.  SOA needs scale to deliver the benefit.  It needs to be able to offer a pool of services that can be used intradepartmentally and interdepartmentally, and indeed beyond into the value chain with partners and things.

But on the other hand, SOA hates scale because as soon as you move outside of the department, you've got to worry about design skills, you have got to have the infrastructure there and you've got to secure it, you've got to scale it, you've got to manage it.  And so all of this tends to mean that SOA doesn't like scale.  And so that's the first of the paradoxes.

The second paradox is all around security.  SOA's option needs freedom in order for it to really show its benefits and to drive the value curve.  And it needs to be placing business services for use by the external business partners and by multiple development teams and cross department, cross enterprise.

And therefore, that opens up issues, and therefore you could argue that SOA security hates freedom because those issues mean that people can get at services that maybe you didn't know they were getting at. Are they getting the ones they're authorized to get at? Are they trying to do anything naughty like slip stuff in that shouldn't be there? All those issues are worries for people as they go down the SOA route.

And then the third one is all about cost. You know, a lot of people are hoping that putting in an SOA is going to help them reduce their IT costs. And building the system from combining different business services together, is a good way to think about get being reuse and doing things more cleanly and more quickly and with more agility.

But you do find situations where SOA can actually increase costs. Just getting over the inertia of getting people to ad opt SOA between departments and elsewhere, you've got to address these issues of learning and scale and management and all the same issues in performance.

So you know, cost also has this sort of double-edged sword of yes, it can reduce costs but you've also got to be careful that it doesn't increase costs.

WEN:         Interesting. So let's go into those three

paradoxes in a little bit more detail and talk a little bit about how SOA appliances can help mitigate them and again, deliver value.  So, around scalability.  I know we've talked about scalability in terms of adoption of the actual architecture and we've also talked about the scalability of performance of the actual traffic as well.  Maybe you could talk a little bit that in detail.

CRAGGS:     Yes, sure.  I think really, there are, in a sense, three key things here as far as scalability is concerned.  The first is skills.  If you're going to start using this in different departments, somebody's going to need to start putting in the software, the middleware that's needed.  You're going to have to define linkages. You're going to have to handle defining the policies you want to use in security and so on.

And then there's the actual infrastructure itself.  You're going to have to have the software there.  And then this issue of actually managing things across an SOA.  You know, an end user rings up and says, I've got a problem, it's going slow.  Well, how do you know what's going slow?  So these are the issues that people have to struggle with and these are the thing that almost make SOA dislike scale.

The key there as far as appliances is concerned is that the appliance brings a uniform box, so it brings a level of

uniformity and standards to the picture which tend to
really reduce the skills requirement.  The beauty of an
appliance model is that in principle, you plug it in and
you turn it on and you're away.

Now, obviously there's a little bit of configuration that
will need to be done, but there's no programming or
anything.  And a lot of these design options have already
been chosen as part of the prepackaged appliance.

So it simplifies everything and it reduces the skills that
you need.  And of course, it can also reduce the level of
infrastructure you need.  So on those two fronts, it makes
a lot of sense.

And then on the management side, the fact that you've got
appliances in there means that because everything is
uniform, it becomes easier to manage things, the end-to-end
applications, across the SOA.  And you've got uniform
points of, if you like, interactivity, and that you can
actually use those places where you being put policies in
to manage things like performance and flow.

WEN:          Interesting.  Those are very good points, in
terms of the standardization that appliances can provide,
the simplification and the performance benefits because
these are dedicated hardware appliances.  So those are

three good reasons for adopting appliances to handle the scalability concerns and therefore scalability benefits that one would expect with an SOA architecture.

Let's talk a little bit about security, that's an area that's particularly important to me, and how SOA appliances can help deliver some of the security needs and mitigate some of the security concerns you talked about in the paradox.

CRAGGS:     Right.  I mean, you know, this reflects the fact that when a senior manager actually starts to understand what SOA is doing and how it's turning everything into a collection of services that then can be reused in different applications across the value chain, that's when he tends to start worrying.  That's when he starts thinking about security and about, hang on a minute, who's getting at these services?

Are we making sure that only the right people are getting to the services?  And what if somebody's trying to inject some sort of virus into us?  What if somebody in my organization is trying to enable somebody to exploit us by putting in some sort of back door.  All these issues immediately come to mind as soon as you open up connectivity wider than within the enterprise or even within the department.

So luckily, the appliance has some quite good
characteristics here which can add a lot of value.  And the
first is, because it's a specialized appliance, the
appliance can actually take a lot of specialized load that
would possibly have been spread between a number of
different general purpose servers.

So in other words, if you didn't like, for instance, an
appliance, a firewall appliance -- we're all familiar with
those -- in a sense, the appliance is great for doing the
same sort of job for an SOA network in that it can look at
all of the XML traffic, which is how different SOA
components talk to each other.

It can check it all.  It can check authorizations.  It can
do encryption and decryption.  It can handle all of those
things from a single point.  And that single point means
it's an ideal place to put in things like security policies
and to implement them and to police them.

The second thing about appliances from a security point of
view is they are pretty damn tamper proof.  If you've got a
general purpose server, a smart programmer may well be able
to get in there and do things that you don't want him to
do.  And there are ways you can get into Windows.  There
are ways you can get into all sorts of different systems.

But an appliance is much harder because, really, it's an enclosed black box, and it's very hard for a programmer to get in there and tamper with it.  That's the second thing.

And the third thing is, if you're talking about things like encryption and that sort of thing, that's exactly the sort of operation you do not want to be doing on your general-purpose servers that are running your business applications.  You'd much prefer to offload that to a specialized environment so that it doesn't interfere with the general operations because of course, encrypting and decrypting can actually be a real drain on CPU.

WEN:        Oh, good points all around, in terms of the specialized load, as you mentioned, and dedicated offload components around encryption, decryption.  You didn't but I also know that XML parsing and marshaling of those overall components is another area of intense processing.

The areas of hardening that appliance can be very, very different from a general purpose server.  And in being that single point enforcement for security policy makes natural sense when you have got an appliance in the network.  So all great points for SOA appliances and security.

The last is, I think a major concern of any manager that's

looking to business, the business agility as well as the cost to implement that overall agility, TCO. Give us your perspectives and summary here.

CRAGGS:       Okay. Fundamentally there's two things. One is, an appliance provides you with the opportunity to offload work. And there's a lot of grunt work in SOA. There's a lot of mapping between one format and another, as you said, XML parsing and all these sorts of things. Offloading that can ensure that your critical processes are reserved to do the business work they need to do and that you have a more price performance effective solution in place.

The other one is to do with skills. And we've mentioned skills before. But it can make major inroads into these costs of supporting or implementing and supporting SOA to actually have some sort of uniform packaging that you can use for when your SOA needs for the middleware, if you will, so you don't need to worry about skills so much.

You don't need to worry about somebody making a mistake in the definitions. They're all preset. There's just some configuration to do before you use it. So all of that can significantly help to mitigate that cost impact of rolling out SOA to a much wider audience in the value chain.

WEN:        Great.  So in terms of handling that grunt
work, the standardized grunt work around, I think we talked
about security, talked a little bit about the XML parsing
and I also know that channeling and brokering sometimes
those components as they get shifted around to be SOA
infrastructure can be sort of concentrated into these SOA
appliances.

And again, because of the standardization, you have the
ability to uniformly address them in one overall area of
the architecture in these SOA appliances.  So, it sounds
like there's good benefit from a TCO perspective, skills
perspective.  Standardization perspective, configuration,
not programming perspective as well.  So I think all good
reasons for considering SOA appliance.

CRAGGS:      Yes.  If I could just add a postscript to that.
Of course the other issue is if you can replace 10 pieces
of code on 10 general purposing servers with one SOA
appliance, that in itself is going to simplify the overall
operational management and therefore the cost of managing
your SOA.

WEN:        Yes, good point.  Definitely, especially given
the high performance of these dedicated appliances.  So
good.  I do appreciate you for joining us on these podcast
series and encourage our listeners who have more questions

or want to understand a little bit how these SOA appliances can help...

IBM has a broad portfolio of offerings in the appliance as well as, of course, the software area for handling SOA and SOA management, security, the various components that are necessary to consider successful architecture.

Go and visit ibm.com.  We have our capabilities at [ibm.com/software/integration/datapower](ibm.com/software/integration/datapower) for SOA appliances in general.  Or, you know, meet with your Business Partner or IBM representatives to learn a little bit more about how IBM SOA offerings can help you implement this architecture.

Again, Steve, thank you so much for joining us.  Our audience members, thank you for joining us.  This is Ben Wen from IBM of the podcast series around SOA appliances. Thank you all.

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