DENISE: If you're listening through your computer speakers, please be sure your speaker volume is up. If you are dialing in, please follow the screen phone number and access code shown on the screen.

Your phone lines are muted. But if you are experiencing any technical difficulties, the chat function is available to you at the bottom left of your screen. If you have any technical concerns, or if you have any feedback or questions you'd like to ask during the webinar, please select Select to Presenters from the drop-down chat menu and send any questions you might have.

To encourage feedback, please participate in polls as they appear on your screen. Please note we will not be using the Notes or videoconferencing function. Also, please do not touch the Cam or Notes buttons at the top of your screen.

We also will not be using your webcam, so please do not turn those on. To respect everyone's schedule, we're going to keep this moving so the session ends on time. If you have any questions for Kevin, please use the chat feature. We will get to as many as possible, but if we don't get to your question, we will send out an email following this webinar with all of the relevant answers.

We will also send out a link where you can access the archive for the webinar. This webinar is being recorded. Please use the hashtag VAMobileHealth if you want to participate on Twitter as well. With that, I'll turn this over to Kevin Troutner, VHA's Lead App Developer of the VA's Web and Mobile Solutions Team. Kevin, over to you.

KEVIN TROUTNER: OK, thank you, Denise. I just wanted to say that I work for Shawn Hardenbrook, Kathy Frisbee and Dr. Neil Evans in the VHA Connected Health Office Web Mobile Solutions Group. And I'm glad to be talking to folks today about our VA Mobile Framework.

So on the slides today, in general, I'm just going to talk about the framework from a

high level. And I've broken it down into four main sections, the infrastructure, the services, the project management tools, and a little bit about the process later on.

But currently, our infrastructure consists of a couple of enclaves hosted at Terremark in the dedicated core cloud. Our first on-site is for production. It's actually for production, preproduction. It's FISMA High environment. And then our development/test enclave for development systems, Atlassian tools and test systems is a FISMA moderate environment.

We're going to be undergoing some change in the next several months as the new contract comes on to kind of breakout that development environment from the test environment. And we're going to be adding a new demo environment.

So what we're trying to do is to increase our collaboration with external partners, such as the DOD, or vendors that don't have access to the VA DPN. And that demo development environment is going to be open to the internet, but closed off to internal VA resources.

We'll keep test enclave around. We'll shut it off to the internet, open it up the backend VA development systems. Again, our demo development and test systems are all nonsensitive. There's no PII type enclave. But the test system will allow us to connect to other services in the VA for development.

So for OS support, basically our machines are virtual machines. Developers will request RAM, CPU, and storage for their needs for the project. We have a support contract in place to manage the infrastructure up to the OS Level for all projects in the mobile application environment. And we also have a support contract in place to manage the configured-- all of the application servers that are part of our architecture. So we manage that up to the Binary/Patch level, so folks don't have to manage that from the project level. Our target platform is currently RHEL5 and 6 for Linux boxes 2008, Windows Server 2008, and 2010.

The app servers that we support currently are Weblogic and Jetty for our containers and for any [INAUDIBLE] server side JavaScript. We also have a NodeJS cluster set

up, so folks can target either Java or JavaScript containers for app servers.

Our web servers supported are Apache and NginX. We currently use Apache for proxy services into our on-site. And then also internally, developers can target Apache or NginX to host their web applications.

We currently support Oracle 11.2 and Mongo Database [INAUDIBLE]. So if you need data support, both of those available through your application. We currently connect directly to Mongo, the subscriber, such as the [INAUDIBLE]. And there is an effort underway to implement eCRUD service layer for applications that want to just make RESTful calls to save their data out to a Mongo instance. So that'll be coming soon.

Our mobile targeted platform in order of preference are HTML5 [INAUDIBLE] but with response design. So we can actually target the desktop mobile devices all in one shot with a little bit of tweaking of the CSS. And then if we have a need, if there's a project that needs to take place that that is not going to work for, we can also target hybrid apps using phoneGap, or iOS Native, or Android Native, depending on the situation. Something like that would get through a review board, an architecture team, to determine if we need to target those platforms.

And coming soon. So right now, I told you I worked for Web Mobile Solutions. Another big component under the connected health office is My HealtheVet. And M HealtheVet is going to soon be going under a redesign, where they're targeting Lieray, which is a Java, web-based content management portal. So we'll be working very closely with My HealtheVet to implement some Liferay technology.

They'll be doing it in their environments, and we plan to stand it up in the mobile application environment. And I have actually picked out a project for our web portal to be migrated over to Lifeway in the beginning of 2015.

DENISE: Great. So as you can see, we have Windows, Oracle Weblogic, Jetty, Oracle Database, MongoDB, Apache, NginX, and NodeJS support in the VA Mobile Framework. If you can, please use your chat function on the left-hand side of your

screen to suggest any other technology you'd like to see supported that's not on the screen there.

So if there's any other technologies that you'd like to see supported, we'd like to hear about that. Please use your chat screen on the left, and let us know, and we will capture that in our notes for the future. Kevin, back to you.

KEVIN TROUTNER: So let's talk VA Mobile Frameworks Services. We have this middle tier layer. Basically, mobile apps, folks are sensitive to performance from mobile apps. And what we want to do is to make sure that latency and performance are not an issue for our mobile apps users.

So we've got this layer in the middle that we call VAMF that provides basically not only just a caching layer, or a varied performance service layer for our mobile apps, but also provides an API stability for mobile app developers, so that as we develop tons and tons of these mobile apps, we don't have to go back and re-architect or actually recode as the backend enterprise systems change in the VA.

So it gives us some kind of a buffer there between the Enterprise services and our application layer. And then as you see from the slide, Enterprise services are always undergoing design, there's a lot of effort in the VA recently for a lot of new backend development. And we hope to insulate the app developers from a lot of that, yet enabling it. Once those things come on board, we can enable that for the development group as a whole and leverage those enterprise services.

OK. Here we list some of the REST services that are currently available in the VA Mobile Framework. The top section lists with medical domain, APIs, that are currently available to help adapter. Vitals and labs, allergies, a lot of different medical domains there.

And then at the bottom of the slide, you'll see some of the services that we offer. I'll just point out that we've got the existing services listed on the right. Those are all in- - they're almost development complete and ready to go through validation, and then deployment to production.

The way these services were developed, we're at the compliance stage, or V&V stage, and so there's probably going to be a little bit of work to get through that stage. I'll talk about process a little bit later, but we're hoping for future efforts and new efforts to kind of integrate some of that compliance process earlier on in the development cycle.

But just know that the services on the right are virtually development complete and ready for the release process. The services on the left are things that are currently being developed, and are in either early stages or mid-stages of development.

So you can they see things like patient-generated data service. That's a hot topic in the VA today. That's going to allow Veterans to store their own self-entered medical data. Secure messaging is another service that's going to allow the Veterans to talk securely with their providers, or to allow providers to talk securely with other providers through their mobile devices.

And then that notification service to allow either applications, automated event notification, or providers to notify Veterans or patients that something like a, hey, come pick up your prescription, or something like that. So I think there's some really cool services just coming out for this.

All right. So the next topic is tools for project management. And the VA Mobile Framework offers a whole suite of tools for development teams to manage their work. And it's all based around the Atlassian Suite. We use Jira for an issue tracker. That's where agile development teams manage the backlog requirements, that kind of thing, for their project.

Confluence is a tool for the Wiki. So developers can write out their documentation, and collaborate across the team with their team members and stakeholders for documentation. Stash is really just an enterprise wrapper around Git Source Code Management. So development teams can leverage Git on their workstations, and how are they using it in their environment.

It's easy to collaborate with open source projects like OSEHRA or GitHub. And it's

really like, the thing in Source Code Management. Stash is just that wrapper around Git that lets us add in things like role-based access to repositories and projects.

Fisheye and Crucible is a web-based Team Code review tool. So developers can pull up their code based around Stash and share it with the team. They can actually annotate and create reviews to discuss over a web conference.

And then the last thing I'd like to point out are Dashboards. And it's not really a specific tool within the Jira and Confluence Suite, but a dashboard is like a sub-component of those tools. And what you can do is create-- I don't know if I'd call them widgets or gadgets. I can't recall the terminology that they used. But they allow developers, or actually development team members, to go and create a dashboard to show like, the health of the project.

You can get stats on the number of issues that are open, how things are assigned across the project, how many things are open, closed, that kind of thing. It's a very, very cool tool to use. It's very easy to use. And I think when folks get into creating the dashboard for their projects, you're going to find development just screaming through the process, just because they can share new information and get through the project a lot quicker.

So the next thing I wanted to mention is university.atlassian.com. Go there if you have a VA.gov email address. Anyone with a VA email address can self-register and go view self-help videos on how to use the Atlassian Suite. It's primarily based around Jira, but I believe there's some help there on the wiki.

Not so sure about Stash, but I can tell you for the Stash users out there, if you're already using Git, Stash is a seamless use. And if you're not familiar with Git, there's a lot of good open source tools on how to do that. But this university.atlassian.com, it's a great resource for folks just coming up to speed on the Atlassian Suite, Jira, and Confluence.

OK. And then last of the Tools section are build tools. We currently use Jenkins and create build jobs for each of the projects, and then there's a dashboard to show the

health of the build. So that's our main targeted platform for continuous release.

We have iOS7 and Android build slaves that already exist, so if you need to compile on either of those two platforms, you would basically use a tag to have your build jobs targeted toward one of those build slaves.

Now for anyone else doing something-- for example, with Java or some other platform, if it's just HTML-based-- you can basically just create your own build slaves, and then just reference it from Jenkins. Your teams would basically need to request a VM. The project team would stand up that server and get it building properly, and then connect to a role.

We're just now in the process of standing up a build manager role for our environment. We would integrate with that person to connect into Jenkins, get those build jobs started, and then manage the process once it gets past the SQA stage. So very convenient to have a project-based build environment, yet integrate back into our CM and Release process with our Build Manager.

And the last thing I wanted to mention-- this isn't necessarily specific to building. But we actually have the use of Fortify Static Code Analyzer in our environment. Any developer who is registered in the MAE to use our tools can reach out to the Office of Information Security and request to use the tools, either on their workstation or in their build environment.

So it can be used in several different places. And then, the development team can also instrument that static code analysis to be performed at build time, so that you can do some automated checking to ensure you're not letting hides or criticals get past the build stage, and also to alter you if any of those happen. So I think it's a cool feature of our environment that we're actually looking at security early on in the life cycle, rather than at the end, where it holds you up, and it might impact your delivery dates.

DENISE: Great. Thanks, Kevin. And just a reminder for everyone, we'll have the link to download this presentation after the presentation ends. I have received some

questions on that. We're going to kick it off with two poll questions. I'll ask Karen here to bring the poll questions. We'd like to get a sense for whether or not you've used the Atlassian tools. So if you can just answer yes or no, or let us know if it's not applicable, and we will give you a second to answer that question.

Great. So a lot of no's. About 58% of you so far that have voted-- that number is kind of changing-- but a little over 50% haven't used them. And a few yeses, and a few not applicables. So thank you for that. So we'll bring up the next poll question, which is a nice follow-up from this one.

And we just want to get your preference here. Do you prefer other tools? And we'd like to know whether you don't have a preference, or if you prefer other tools, please use the chat function to let us know what those are. Kevin's definitely interested in your feedback now.

Great. Thank you for that. And Kevin, while we have this break, I wanted to bring a couple of questions to you, both from Eric in Clifton, Virginia. The first question is, Liferay is the product platform you've selected. Have you selected a systems integrator to implement Liferay?

KEVIN TROUTNER: Oh, that's a good question. But I'm afraid I don't know the answer to it. So I know it's a technology that we've looked at, mostly coming from the My HealtheVet side of the house. And we're just now looking at it from a web mobile solutions side. And I believe our first project on the VMF side is going to be migrating our mobile portal over to it, so the information base that we have as far as [INAUDIBLE]. I don't really know if there's an integrator for the My HealtheVet redesign, but I could take that question out and respond back to you after I run that by that team.

DENISE: Great. Thank you. And Eric, we will follow up and get the answer for you. And the second question, also from Eric, is how would one integrate a real-time heart sensor with the Vista system?

KEVIN TROUTNER: A real-time heart sensor with the Vista system. So there's a lot of new effort underway with integrating to Vista backend systems. I know Vista evolution is one of

the things underway, and there's a new middle tier called Vista [INAUDIBLE] underway.

We currently don't use either of those, and we use a middle tier called Meadows with very limited capability using this RPC. That's what we use currently. It's not our target architecture. Depending on how quickly a project would come on would determine how we would integrate back into Vista for that.

So I guess it kind of depends. And I hate to give you a non-answer, but it kind of depends on if you would be starting this project now, or if it's something that would be started after say, the next year or so.

DENISE: Great. Thanks. And we don't have any other questions right now. For those of you listening on the phone and participating on the web, please feel free to use the chat feature, and we'll continue to answer your questions as they come in. Back to you, Kevin.

KEVIN TROUTNER: OK, Denise, I'm still seeing a pole not currently active. Is that supposed to be there, or should I just close that?

DENISE: Just click stop polling there, Kevin. Thank you.

KEVIN TROUTNER: All right. So the next slide, does everybody see the generic app development flow slide? This is a little bit older slide that I probably would like to make a couple of changes to. But what this slide depicts is our current process for app development. And this is mainly with our contract vendor partners.

And you can see that the development flows through from creating the project to getting the concept paper approved, and we're working through the initial development, and then getting into-- at the right, you see this compliance phase. Well, we've got a bunch of compliance folks listed from FAQ, patient safety, all the way down to privacy and security.

That's the main meat of our quality assurance program. And then once you've basically validated through all of those compliance bodies, we go into the initial

operating capability and release process. So this is the way it currently exists. And what it doesn't show-- and I would love to update it. It's just shows that all of that compliance, while it looks like it's done at the end of the development cycle, we're really trying to integrate that early on.

So if you can see on the timeline there where Deborah started, that's really when we want to start having teams engage most of these compliance bodies. And it's not really called out on the slide. But if teams can engage the compliance bodies early in the life cycle, several things happen.

And the first thing that happens is you get quick feedback into your development process, so there's a lot less rework come delivery time, and everybody knows as soon as you can make a change early in the life cycle, things that follow on after that become easier and easier to develop.

So we are definitely trying to move that further up into the life cycle, and indeed throughout each of the agile scripts as they roll along. So that's the major change to that slide that I'd like to mention.

And then this slide here is just a recap of the compliance bodies. I think it's important to know that all of these are very important to us. Some of them lend themselves to early inclusion in the development life cycle. So for example, five 508 compliance, UI Style, and VA branding, those three can be called out specifically as something-- those are some of the very first things that you're going to want to do early in the life cycle.

Of course, Code Review, as our team has found out, you want to do that all throughout as well, and that's up to the developers. Take advantage of that Fortified Static Code Analysis tool, and find issues early. If you have to correct 50 issues versus 5,000 issues, it makes life a lot easier.

And then, of course, Sustainment Plan, that's something you're going to want to make sure at project inception, performance. See that early. The sooner you can get into the testing platform, the better on that. And things like privacy, and patient

safety. Those folks generally like to wait 'til the end of the cycle.

I think it's good to engage them early. They'll know you're coming. They get a heads up about your project. They can let the wheels start turning. But they may not engage you as deeply as some of the other groups until you get into that through SQA or V&V phase, where they're actually looking at the reports from some of the other compliance bodies, and then able to give you feedback as to their take on the health of the application. So I think that's it for the compliance.

OK. So this slide, what I'm doing here is calling out the ProPath process. So you guys, you may or may not know that ProPath is a huge process, template-driven process, for development within the VA. And there are tons and tons of documents.

It's done under a reduction in documents to make it a little bit easier on development teams. But from a mobile perspective, we've actually carved out a specific path through ProPath so we can target the things that we think are most important for mobile developers, and will actually streamline the effort for anyone doing web and mobile stuff.

So we call that our Mobile Health External Development process. It's a collaboration between OI&T and VHA. And we've had our first iteration of it. It's always undergoing change, of course, to make it better. But I think we're on the right track to making that a usable process for all of our mobile developers, whether you're VA or contractor.

The templates that we have are in our Confluence wiki. So because they're web-based, it makes it very easy to collaborate, both with our vendors and internal team members. And now, we can get away from passing versions of a document through email, and worried about getting the latest, greatest version. Now we can go right to the web-based wiki and pull the latest to ensure we're not getting something that's old.

You can also, through that wiki, look at previous versions to see what changes have been made. That kind of thing. But it really lends itself to a nice, collaborative effort

for that documentation. I can also copy and edit the templates that are there to start out new projects. And as ProPath undergoes changes, we have a team that updates the templates , so your project team doesn't have to go and make sure that they've got the latest ProPath template. They just grab it from our site and use it.

And then for anyone publishing for historical reasons, or publishing to TSPR, you just basically export your wiki as a PDF, present that as an artifact, and you met your needs there. And the last thing I'd like to mention is that we have traceability from Jira, Confluence, and Stash, so that you can actually follow and trace from the code level, to the requirement level in Jira, to the documentation and the wiki, and traceability. Because folks are always looking for that across those three. So I think the tools lend themselves to that very well.

So here, we talk about our release process. And I must admit, this is very aggressive. But right now, we currently have a 30- to 45-day release process at the end of our cycle. I would say in the VA, it's actually several months. But for the mobile program, we've kind of pushed it down to this 30 and 45 day cycle.

It's more on the 30-day cycle when you've got congressional pressure to get stuff done, and 45 to 60 days when you don't. But we're working every day to shorten that up. And our goal, as you can see on the first line there, is to really get into two-week development sprints, and then a two-week release sprint, so that as the development team presents their sprint demo, the release team or development team, if they're part of that release process, picks it up and rolls right from the development servers SQA, right into V&V and release process.

We'd love to see that down to a two week cycle. You're basically getting down to a complete cycle of one month from development to release into production. That's our goal, and we're aiming every day to get there.

So there's a few links that might be of interest to folks. Anyone looking to begin development, whether it's a new project that's not known to the VA, or if you have a project that you'd like to do on your own, and would like to use our development project management tools, such as Jira, or Stash, or Confluence, or our build tools,

or if you just want to register as a mobile developer and get access to the tools, and look through some of the things that are there, such as the VAMF documentation, you can go to mobilehealth.va.gov/initiation and make a request that comes into the web mobile solutions intake process. And folks there will take a look at your request and get you the access that's needed.

And then for anyone who's already registered as a mobile developer, that second link is a link to our heath adapter documentation. It'll probably undergo a little bit of change here as we change the name from Health Adapter to VA Mobile Framework.

But that'll show you the architecture, and services, and security model-- that kind of thing-- that we currently have in place for the current VA Mobile Framework. And then as we roll out new releases of that, of course the URL will change, and we'll update that documentation.

OK. So I had originally decided to end on the previous slide, but I talked to some folks today. For anyone out there who's interested in what's been happening from the VHA side with the roll-out of these iPad devices, I wanted to let you know about this GFE Device Rollout. So government furnished equipment to clinical staff. It's a really cool program from Connected Heath.

The Mobile Health Provider Program is rolling out iPad minis and iPad 4s with Retina display to staff in VA medical centers. For FY14, there were 20 sites chosen. They've rolled out 14 sites so far, with about 6 to go. And as of yesterday, Palo Alto was rolled out with approximately 600 cover devices.

I'm told that we're expecting about 100,000 devices to begin use within the next three years, and all of them have been provisioned with unlimited data plans, so that when providers go outside the medical center, and they're either at home or on the run-- hopefully not driving, but at least out on a road somewhere-- they have access back to VA services, and folks can either connect to the tag, or they can connect to the VA backend services through VA VPN.

So it's a pretty cool program. I think there's a lot of happy folks to get some of these

new devices out there, and I'm told it's been very successful so far. I will say that the program is looking for volunteers. So if you're interested in being a staff volunteer, to report back on your use the device, you can email Dayne.Bent@va.gov, or Kevin.DeOrsey@va.gov. And if you have any technical questions, you can spam Bill Cernick at va.gov, and he can answer anything technical that you'd want to ever know about.

DENISE: Great. Thanks, Kevin. We have another question. Are there particular use cases for which the VA is seeking a mobile solution?

KEVIN TROUTNER: Particular use cases for which VA is seeking a mobile solution. So are you asking something like, are we looking for someone to develop a mobile app to enter laboratory results, or maybe like home glucose results, or something like that? Is that what the question's asking?

DENISE: Yes, I think so. Yes, it is.

KEVIN TROUTNER: [LAUGHING] OK. Very good. So, first of all, that's a great question. And you caught me missing a slide in here, which is basically an app inventory. And that's one of the slides I wanted to add and didn't get around to.

We don't have our app inventory. We have it documented internally, but we don't have a public-facing site on that yet. I know it's something we're working on. So I think that's really what you're looking for, is what do we have in progress, and what are we targeting? And I would expect to see something like that happen before going public here. Probably, if not at the end of FY14, at the beginning of FY15, so that folks who are requesting new projects can see what we've got in the pipeline and know, hey, that's coming. I don't need to go find money to stand that up. I know it's coming, and where it's slated in the schedule.

So two things to look for in FY15 is our complete app inventory, and an integrated master schedule of when those things are going to be rolling out. So yeah, I apologize for not having that for this presentation.

DENISE: Excellent. And we just have a couple questions coming in here. Just give us a

second. In the meantime, if we can pull up our last poll question while we're getting our questions squared here. And let us know how you heard about this webinar. And that should be coming up. Twitter, LinkedIn, Yammer, other internal VA channels, word of mouth, or other non-VA sites.

And Kevin, just stick with us a minute, and we'll get another question over to you. And if anyone listening has anymore questions, we do have a couple minutes, so please feel free to use the chat screen to ask your question.

Great. And the next question is, what are some of the biggest lessons learned to date in terms of developing mobile apps?

KEVIN TROUTNER: Biggest lessons learned in terms of developing mobile apps. OK. So we have a relatively new program. I think we've been in operation, what? Two years now. Maybe a little over two years. We started with a pilot for caregivers, and we've rolled into some other apps for nurses and providers. We've also done another app targeted at Veterans and Service members.

So we've kind of done a lot of different things. It's hard to pick a biggest lesson learned, other than there's a lot of folks looking at what we're doing. So there's a lot of pressure to perform well. I can say that one app we've done, the Burn Pit Registry, we've got approximately 60% usage by Service members and 40% by Veterans, which is something we didn't quite expect when we rolled that out. We expected it more to be mostly Veterans, and then Service members. So that was a little bit learning curve.

As far as our mobile apps go, keeping up-to-date with the versions of native platforms has been a challenge for us, because it just happened so quickly. We in the VA have never been-- I shouldn't say never, but we aren't currently that quick to roll up on new versions of things. So we have the need to be able to respond to new versions of iOS and Android, for example. And then we actually use tools to make sure those work, such as Fortify.

So there's a whole dependency chain that we have to make sure is refreshed in

order for all those things to come together. That's a big lesson for us. Another lesson is that in order to engage Veterans and caregivers, you've really got to be on your toes.

You just have to be very responsive to their needs. If you don't respond to their needs, folks hear about it. So that's one of the things I think is high on our priority list, is listening and responding to that. Which actually drives why we do development now in an agile process, so we can take requirements as the business changes. We can take new requirements, implement them quickly, and release quickly.

So that's kind of the major driving force for us to have smaller development cycles, and shorter, quicker release cycles. So I'd say that's the biggest driver for our release process changes.

DENISE: Great. Thanks, Kevin. And we don't have any more questions. Is there anything else you'd like to add that we didn't get to?

KEVIN TROUTNER: No. Thank you for letting me take the opportunity to talk about the VA Mobile Framework. You know, it's really cool new technology. We love doing it, both from our contract partners, and OI&T partners, and internal connected health teams.

I think the folks who are part of this really enjoy doing it. Anyone involved loves the technology and doing the new stuff, and I think we've got a lot of happy folks who are starting to get some good tools and services out of it. So I'm very happy to be a part of it.

Our vision and direction comes from Kathy Frisbee and Neil Evans. And they are great business drivers for this. I can't thank them enough for all the effort they've done in the VA to make this technology available. So I think it's a great program.

DENISE: Great. Thank you. And please take the Surveymonkey survey and let us know what additional topics you'd like to discuss. Our next presentation will be on September 19, from 2:00 to 3:00 PM, and we'll be talking a little bit more in-depth of the Atlassian tools. And lastly, you'll be receiving a link with downloads to the

presentation. We've seen your requests for that. And that's all. Thank you, everyone. I hope you have a great afternoon and a great weekend. We'll talk to you in a month.