



HP CMETV: HP Service Delivery Platform 2.0

Featuring:

Peter Dragunas, Director, Network Domain Solutions, HP CME

Introduction

Time code: 00:08

Hi, I'm Peter Dragunas. I'm the Director of the Network Domain Solutions Organization within CME, and today I'm going to be talking about our HP Service Delivery Platform 2.0. This is an announcement which will be made in November, basically covering some of the new work we've done around our Service Delivery Platform. And so I'll bring you up to date as to what we expect to release in this, next iteration of our SDP.

HP has been in the SDP business for actually quite some time, since 2001. Our first SDP was deployed at Telefonica, Moviles in Spain. They've been a customer of ours for the last few years - a very successful deployment, delivering mobile data services, to their customers. Over the last year, we have actually closed another eight SDPs. So since the last time we met with you, we've closed eight more Service Delivery Platforms - two in Asia, two in North America and four in Europe. So we really have had quite an acceptance of our SDP framework, architecture and the solutions that we have around that. And this is just an example of customers in which we have delivered our SDP around the world. So we focus on tier one operators as our primary focus of our SDP, aligned with our enterprise service provider accounts where HP Consulting Integration are delivering services into those customers and they take our SDP framework solution and deliver it into those customers. And today we're going to talk about some of the enhancements that we have coming up in our next release of our SDP.

So we have a reference architecture. We showed this to you last year, it's the same reference architecture. We really haven't made a major change in that. It's a functional architecture. I should point out that it's not the details of how things go together. It's much more complex than that. It highlights where we have key intellectual property through that framework. I'm going to get into a little more detail on that as we go through the presentation. It basically covers where OpenCall fits, where our management products from BTO fit within it, where our devices fit, and where the other HP solutions from CME fit. And, in fact, it's quite a comprehensive solution, which I think is why we have eight more customers this year than we did last year. So, it really does, I think, cover end-to-end what we think about as far as service delivery is concerned. And what we're doing now with our SDP is we're basically focusing on what we think of as our next generation of service delivery and there's some very critical challenges that operators face as they try to deploy this. What we're talking about, as we said earlier, is convergence. It's convergence around taking the IT assets of the carrier, combining it with the Web and the networking, bringing all those things together to deliver the next generation value added services. And there really are some very complex issues that come into being when you try to integrate these three different domains within the carrier today. One of them is to manage the service life cycle. And you'll see in a minute what we're



doing to help facilitate life cycle management of services. This turns out to be a very big problem, and you'll see in a minute why this is so critical. The second thing is it really takes too long to introduce services. So you need to have a robust third party business model to facilitate the building out of new services from third parties and how you manage that whole life cycle around third parties and delivering services more quickly. The next area is a whole area of identity management, access control of both services and subscriber information. This turns out to be a critical element. It leverages very heavily on subscriber data management, but it takes it to the next level in being able to allow third parties to access subscriber information to build the next generation services.

We also are working certainly to facilitate new services and our services market place plays an important role in delivering the next generation of value added services. And then finally, we want to make sure we can bring into this a lot of the legacy services and bring those into the service delivery platform by providing the right set of network interfaces to the legacy infrastructure that carriers have today. So the challenges that are there have evolved somewhat over the last year as we've deployed more of these service delivery platforms, and what we're trying to do now is address those next generation set of issues.

Four areas of capabilities: Enablement, Governance, Management, Quality

Time code: 04:13

SDP 2.0 which is the new release of our solution due out in November really focuses on these four key areas of capability. Number one, enablement, which has been the strength of our SDP from the beginning, and this is all about abstracting the network and providing a set of common enablers. OpenCall plays an important part in that but it's also the implementation of the SOA framework, and the implementation of SOA technologies like ESP into the service delivery framework. It turns out, we talk about this but when it really comes down to delivery there's very little that's really actually been delivered. I mean people talk about Service Oriented Architectures and the concept of SDP, it turns out to be a box on a chart in many cases, but the actual implementation is much more complex and you really need to know how to do that. And here we are leveraging on HP's core strengths in IT, service oriented architectures and our partnerships with BEA and Unipier, and really forcing to drive the operator into this particular direction.

The next one is governance, and we think governance is a very big issue around service delivery platforms. As operators deploy SDPs, - and some of the operators we're working with today have some very, very ambitious goals of the kinds of services that they want to deploy - you need to have a comprehensive governance solution. You need to be able to understand how services are being used, what services are related to other services. You need to be able to understand what the reasonable building blocks are so you can re-compose those building blocks into new services and you need to understand the lifecycle of those services. Which services are currently operating? Which are being de-commissioned? Which are in test phase etc? So you need to have a view of how all those services come together. You need to manage the partners as well because you have a lot of partner applications that are being brought into the service providers' environment. You need to understand what those interfaces are for those partners, how to manage those interfaces, how to put the policies in place etc, to manage that. All are part of the governance solution



around service delivery. It's an area today when we talk to customers, very little is understood. In the IT domain, governance is very, very well understood. You talk to a CIO about governance and they understand it. They have all kinds of rules in place. But in this particular domain within operators, very little is understood about this area, and what needs to be put in place to really implement a service oriented architecture for service delivery. Very important section.

The next one is management. And, of course, once we've built the governance model, we need to now enforce the governance model to make sure that we're living up to the expectation that's been set. So we need to have a set of management solutions in place to do that and we need to enforce those policies at run time. So we've created the policies, we put them in the repositories and now we want to enforce the policies and make sure that the right level of service level agreements are put in place. This is very, very critical to make sure that if I've established certain SLAs with certain sets of customers; I can actually manage those SLAs and report back whether or not those SLAs are met. Because clearly if I'm a service provider, I'm going to monetize this infrastructure and some people are my gold customers, some are my bronze... and some are my silver customers, and they maybe paying different rates, depending upon how they're using my infrastructure. So, I need to have a good set of run time policy enforcement capabilities to make sure people get what they pay for and I can manage that.

In addition to that, we need to provide integration from a management point of view between the service delivery infrastructure and the OSS domain as well. This is very, very critical. You need to manage it we basically have to manage these two domains. Service delivery sits right in the center of that and you'll see today we've actually put together solutions that allow us to manage the IT assets, the IT services within an OSS environment so the operator can actually see the whole service delivery infrastructure, including all the services, within their OSS which is an important capability.

And then finally, a new area for us in service delivery is the whole area of quality and how we take a common set of methodologies and tools to automate the testing of applications within the service delivery plain. This is something completely new. Today, testing is not something that's thought of in this value added service space and we think there's a very big opportunity to optimize the quality and reduce the cost of introducing new services by providing a common set of methodology and tools to basically validate services, to test services end-to-end to basically ensure that what we're delivering is meeting the expectations - the requirements - that the operator has set on those services that need to be deployed.

What's happened today is that there is no standard way to test these applications that have been built, and so we're using our tools today from Mercury - our testing tools, our performance tools - to basically build a set of methodology and capabilities to test end-to-end solutions through the service delivery framework.



Third Party Framework

Time code: 09:02

A solution that we focused in on - that really focuses on governance and on management - is our third party framework, which we have had around for a number of years and has been enhanced year after year. And we brought some new capabilities there today. Primarily the new capabilities are brought to us through our acquisition of Mercury and all the capabilities that have come from Mercury in the area of governance and management of Web services. And so we've incorporated that capability into the third party framework. So basically what it gives us is a management architecture. So we have the ability to manage the service delivery framework, providing a central governance point for all of the services, giving us the capability to manage services across multiple protocol sets. So we can look at Web services, we can look at SMS, we can look at MMS, we can look at WAP-based services, across a number of different channels. We, so we can basically manage services across different channels. We can put in policies that govern the consumption of these services, across the particular infrastructure and also put in policies that govern the consumption of end-user services as well. So we can actually govern the use of the network assets and govern the use of the applications that are essentially running on top of those network assets.

It implements the full governance in operability framework - the GIF, as part of that, so it's based on a standard. And then finally, we have the management component and then we have the run time component. This is where we actually enforce the policies, so we have a set of enforcement points that enforce the Web service SLAs that are part of the, the infrastructure. The SMS, MMS policies that we put in place. The WAP policies that we put in place for Internet connectivity and also provide us with the capability of both not only run time but design time policies that can be used in designing the particular application.

So this is a really important point. It's very nearly all the services delivery platforms that work with today have this as an important element of an SDP infrastructure today. Because it basically ties the run time and the management together around all of the services and the partners, it provides a complete view for the operator of how their infrastructure is running and how services are being consumed and who are consuming the services and managing all the partners that are part of that as well.

Governance

Time code: 11:30

To give you some example of how governance is important here's some examples of where it's used. Number one, certainly in the control of third party assets, third parties who are consuming the assets of the service provider. If you have third parties that are using MMS or SMS services or even WAP-based services, you need to have a set of policies on top of that so that you can manage how those users are - or those developers - are using those particular services. You can also use it to authorize by providing the right set of security policies, authorize who can access what components within the infrastructure. But you can also use it for doing things like charging. So, in this particular solution, third party framework, implements all the charging capabilities. So we basically can provide usage information to other applications that need to understand how to charge for things. We can do things like put in policies around parental control so we can define what services can be consumed by what users.

HP SDP 2.0 Governance

Bar finder application

Charge for use of location services



Mobile adult content

Ensure compliance laws are followed



Bundles/Promotions

Rapidly design and deliver service packages



- Examples:
 - Control 3rd party developer access to services
 - Authorize 3rd party content providers
 - Define parental controls
 - Package services
 - Enable new business models
 - Scale the ecosystem

	Wallpaper \$2.99
	Ringtone \$2.99
	Gameday Alerts – 2.99
	Game 2.99

Get the package for \$9.99!

You can bundle and package services together. So you could say if a person is attending a show, we can then take a ring tone, a wallpaper, maybe a music download, and bundle that together and create a policy that says if you basically buy this bundle you get a special set of pricing associated with that. So you can use governance in lots of new ways to create new services that can be created for the operator that can be charged for as new revenue generating services for them. So, it's sort of an area, when we talk to operators, it's sort of like they haven't thought about this, it's sort of a next generation of capabilities, but it does provide an ability to sell more capability around their service delivery framework.



Profile

Time code: 13:09

The next one around governance is really taking what Steve (Dietch) talked about earlier, if you were in the OpenCall session, around some subscriber data management and looking at it from the third party who needs to consume that subscriber information. There's a need to consolidate this real time information, but there's more information that infrequently third parties need to access in order to build the profile of a subscriber. There could be information that's stored in other applications. There could be information that's stored within business intelligence that needs to all be aggregated together and then exposed to third parties who will use that information to process services. So if you want to think about it as the third party framework has been very, very strong in exposing services, the virtual identity and profile broker solutions exposes subscriber information to third parties who will use that subscriber information to basically create new services.

It has a strong set of governance and single point access control around profile and contextual information. So we can take a profile and we can go down to the elements of the profile and provide security that the service provider will set up, so that third parties will only see specific information of the users profile that has been set up within the governance infrastructure.

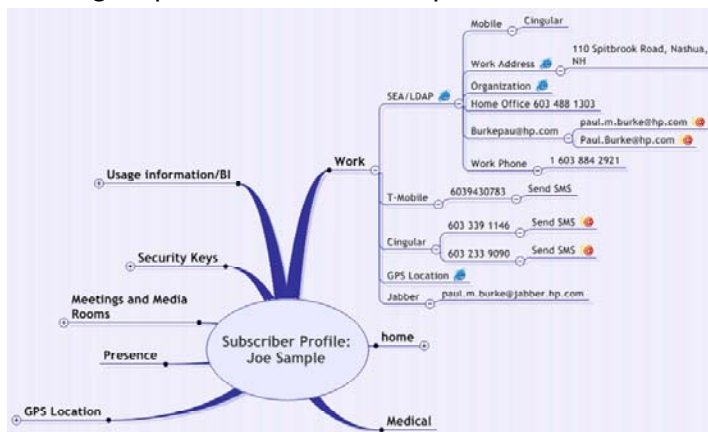
We also have the ability to provide real time, strong authentication and authorization, so with real time the operator has the ability to actually authorize and authenticate whether or not a third party can get access to that profile information. We also have the ability of abstracting a number of different data sources into a single virtualized view of the subscriber profile. So this is not an integrated data base, but a virtualized view of all of this information that would be coming from the different data sources within the service provider, and all of the information is exposed as XML to the developer, so from a development point of view, that really greatly simplifies the integration of that subscriber profile into their application development. In fact, the developers have showed me how we can actually take the information out of this solution and put it directly into an Excel spreadsheet and actually see the whole profile expanded in XML using a tool as simple as Excel or Word or any other tool that allows you to parse XML documents. So, very, very powerful capability that really eases the integration from third parties on subscriber profile. And we think it's going to be a very important solution for a lot of our customers that really need to expose subscriber information to third parties in a safe and secure way.



Here's an example of what a profile looks like. As you can see here, there can be all kinds of profile information that we can access. Some of this could be within the service provider's infrastructure, some of it can be outside of it. It can be all linked together through this single profile that include group list information, contact information, it can include contextual information about the subscriber, and all this is safely and securely exposed to the third parties who would be building applications that need to access this subscriber data.

HP SDP 2.0 Governance Virtual Identity and Profile Broker Example

Profile and context data enhances all applications
(i.e. group lists, contact info, persona, etc..)



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Holistic Management

Time code: 16:35

The next area that we've invested in heavily in our SDP is in the whole sort of what we call holistic management, which is the end-to-end management of the service delivery infrastructure. What we're doing in the service delivery space is integrating the two domains of service management so that we can provide an end-to-end ability to manage services from the traditional OSS domain, which is on the left hand side, and the traditional IT domain which is really the service delivery space. So service delivery really resides mostly in the IT domain where we have all these application servers, IT infrastructure, Web services that are executing all kinds of data services and today these are basically managed. There's two distinct domains by two different organizations. What we've done with our service delivery platform is we've integrated these two domains together to provide an end-to-end view of services that are executing across this infrastructure. And that allows the operator to correlate problems, that could occur within a service. So if those problems are occurring from the network side or occurring from the IT side, they have a single visible view as to how that comes together within this capability. It also provides us



with the ability to extend the service delivery framework into other OSS and BSS applications through ESB integration, which we're using standard ESB tools to integrate the SDP and make its capabilities visible to the other OSS and BSS systems. We have a set of adaptors that have been created. If you're familiar with OSSJ which is a standard that HP has adopted. We have a set of new adaptors that allow us to basically go in and manage the service delivery framework within the OSS environment. Very, very strong capability to manage the services end-to-end.

Testing and certification

Time code: 18:27

And then finally, the whole area of testing and certification. With respect to SDP is that it is very critical that we have a common methodology, a set of tools and processes to test applications end-to-end with this within the service delivery framework. That's having a set of tools, such as the Mercury testing tools, to basically automate those tests, and a set of standard services that HP can package around that which will allow us to automate and reduce the cost of testing for this framework. In fact through our own estimates we think that we can reduce the cost of testing solutions up to 50%. It could be a very significant cost savings versus the way it's done today, which in many cases is an ad hoc solution for testing and certification. Very, very important cost savings in introducing these kinds of services.

Service Enablers

Time code: 19:32

And then finally, the service enablers. And, as you know, this has been a strength of ours for quite some time. We have many different service enablers that we've introduced over the years, whether they're messaging service enablers or they're real time service enablers like SIP and, and Parlay and Parlay X, but this year we've invested in integrating our service delivery framework with IMS and IPTV, and we actually now have value added services that we can deliver in an IPTV infrastructure which we've delivered to a PoC to a customer in Europe. We can basically leverage our existing capabilities and blend SIP and SOP capabilities within a single service creation environment, so if people want to create SIP and SOP applications they can now do that within our service delivery platform. We have of course got all of the standard capability of call control, presence, location, messaging. All these enablers are exposed to us through a standard set of APIs like Parlay which we get from our partners like BEA. And then finally, we leverage our strength of OpenCall, and all of our network expertise to basically bring a strong set of service enablers to our SDP offer.

Service Marketplace

Time code: 20:47

And then finally the service delivery platform needs to have a set of end user services and applications that basically drive it for operators, and here our services marketplace really is our end user services community and it provides a full life cycle for the management of the developers who want to build, test and deploy services on top of our SDP infrastructure. So the marketplace is a core capability that we need to have in order to deliver services to our customers.



Web 2.0 capabilities

Time code: 21:20

As we look at the service delivery platform, this next release of SDP 2.0, we think it is really an engine for the operators to implement Web 2.0 applications and we've now studied that within our team and we think that the capabilities, which is all around governance, management and quality, apply to Web 2.0 and the exposure of assets to third parties for things like mash-ups. And we believe that this is a really important element as the operator looks to monetize a mash-up and basically provide that capability to third parties to compose services out of their capabilities. SDP 2.0 provides all of the infrastructure which will allow you to manage that in a holistic way. Without the management infrastructure around a mash-up, I think an operator puts themselves at tremendous risk, you know. They need to figure out how they're going to control the access and consumption of their assets by third parties so that they can monetize that and really safely and securely deliver those services to third parties. This is not a free-for-all for the operator. The operator feels that they need to have some control of how things are going to be used and the service delivery platform puts that control in place so that they can safely and securely expose those assets to third parties.

Customer success story

Time code: 22:41

So let me give you an example of one of the operators that we worked on this past year. This is one of our customers in Japan that is implementing a service delivery platform now. They really had an interesting problem. You think of Japan, you think they've got it all figured out. They've got all the services they could ever possibly need. This operator came to us and said, "We want to be able to manage an infrastructure with over 1.7 million services". So let your mind expand. Today we talk about hundred'. Here's an operator who says, "I need to support millions of services at any given point in time". So they felt even in their current environment, they didn't have enough services. Now, if you think about what the use case is for that, I think what they're saying is that users can develop their own services. And so, therefore, we need to have an infrastructure in place that allows users to develop and consume services within this infrastructure. So, let your mind expand vertically as to what that means as far as infrastructure. That is a huge infrastructure with respect to governance and management. You just can't let lots of users onto your system without having the infrastructure in place to make that happen.

We also needed a set of open APIs for those developers to create those services. They needed to have a lower cost development environment in which to do that. They wanted to reduce the time to introduce the new services. They needed to have an infrastructure to put in place to manage and govern that. And so we put our service delivery platform, our third party framework solution leveraging all of that SOA governance, all of that SOA management capability and quality, bringing that all together to deliver a very high performance service delivery platform for that customer. It basically exposes their assets, both their next generation assets or IMS, but also exposes messaging interfaces, OSS and BSS interfaces to the third parties that need to do that. It provides a set of multimedia conferencing capability which leverages our OpenCall platform, which is our OCMP platform for messaging and video applications. And of course leveraging all of our LINUX and HPUX hardware capabilities, both our Itanium and our Integrity platforms, to deliver those services.



HP C&I integrated this solution, has delivered this to this operator, and is now in the process of deploying that within their infrastructure. So, very, very large scale sort of service delivery platform. Actually quite a few of the operators that we work with today have the same kind of requirements. We see them sort of turning the page on service delivery, moving from a few hundred services, or some who are just dozens, to hundreds, to now millions of services and how am I going to manage that infrastructure, and basically put in the infrastructure to open that up to lots of third parties is a rather daunting task which we are very capable of handling for them.

HP technology

Time code: 25:36

Our SDP 2.0 is built very heavily on HP technology. All the way from enablement, governance, management and quality, we leverage our OpenCall products, our BTO products which are our governance products, management products from BTO which put in the capabilities to manage the framework and to manage the infrastructure and to store all the services and store all the policies around those services so that we have a single repository for that. In addition to that, we have all the quality products from Mercury which can do the end-to-end testing and certification of services that are deployed within that framework. Of course, C&I becomes the transformation engine for that, so that we can take all this capability into the operator and provide the transformation consulting to the operator to help him understand what it means to move to this particular environment. I think this is in fact one of the big gaps in service delivery today that most of the customers that we deal with, particularly in service delivery, do not understand how IT can be used to transform the infrastructure that they have today into something that is more adaptable, more flexible, more scalable than what they're used to today. And this has been one of the gaps that we've noticed as we've talked to operators around the world. Typically, the network side of the operator is focused on the service delivery space. They don't have the same sort of IT knowledge that the IT side of the shop has and so this turns out to be a very large transformational opportunity for HP Consulting and Integration in consulting with the network side of the house to help them understand how IT technologies can help them build a more adaptive infrastructure for service delivery.

HP Partners

Time code: 27:20

In addition, the SDP is also built on partner technology. Two partners I'd like to highlight today are BEA and Unipier which play an important role, both in the enablement - BEA provides us with a lot of enabling technology, both in their liquid services framework which of course is all of their SOA middleware and ESB capability. We also use their Web logic communications platform which provides us with the Parlay X or the network abstraction. Their SIP server capabilities so we can run real time applications within the application servers provided by BEA. So they provide a key set of enabling capabilities for us. Those platforms also provide us with management capabilities so we can manage the services that are basically being implemented on the BEA products. And then finally Unipier on the governance side, provides us with a really unique capability to manage end user services and end user services' policies. This is only two of many, many partners we deal with in our



service delivery framework. These are the two I'd like to highlight today and show you a little bit about what we're doing with them.

BEA's Web logic communications platform is a key part of our service delivery platform. They're providing us with the BEA Liquid Services Framework, the ESB that we use to integrate the OSS and BSS capabilities, the application servers in middleware, the business process execution language - all the sorts of middleware components we need to have in order to deliver lots of the services that we talk about today. In addition, they have these real time capabilities that give us connection to the network and all the network abstraction through their BEA Web logic communications service platform. So an important component within the SDP framework.

And then we have Unipier which really provides us with the unique capability of basically taking end user services policies, which today are very often embedded in the application. So today when developers build policies, they embed the policy logic within the individual applications, making it nearly impossible to manage that from the service provider's point of view. With Unipier, which we've integrated within our third party framework, we can take those policies out of the applications and we can put them in a centralized development environment, a centralized management environment, that will allow us to manage policies across a number of services and store and manage them in a single place, thereby reducing the cost and easing the way of managing that infrastructure. So if we want to make a change in a policy with our end user service, we can do it once from within the third party framework using the Unipier tool and have that basically propagated throughout the whole framework in which we enforce those policies around end user services. So a really powerful capability to manage policies end-to-end around end user services using Unipier's tool.

Why HP for SDP?

Time code: 30:24

Clearly we think service delivery is at the intersection between network and IT. And there are some very interesting problems that need to be solved. Both on the IT side and on the network side, I think HP is uniquely positioned to do that. Clearly we heard about some of those things today. I think the area of governance is an important element of a service delivery platform and how we take our IT knowledge on governance and apply it to the service delivery domain. How we manage services end-to-end and provide a management infrastructure to deliver those IT and network capabilities together. And of course the quality and how we basically test those services end-to-end through the service delivery framework, having a common set of process and methodologies are all capabilities leveraging our IT strengths and applying it to this particular solution domain. And we have a strong capability - industry-leading capability - of SOA products to basically apply to this particular problem, a full set of standards capabilities. So our SDP framework is really built on a set of industry standards - we're not implementing any proprietary technologies here - we're really leveraging agreed-to industry standards. We have a capability to deliver this anywhere in the world. We've delivered about 24 of these around the world and our delivery capability is really quite extensive. I think we've positioned



the operator to evolve to the next generation of Web 2.0 services by providing a common infrastructure in which to manage those services, and I think that's an important step forward for the operator.

We're building up that services market place, that sort of end user services that will be the next generation of applications which will drive consumption of these services, but of course, working with operators as well as they identify new services and new third parties, and bringing them into our services market place to basically drive the revenue producing services that they will expect to have in the future.