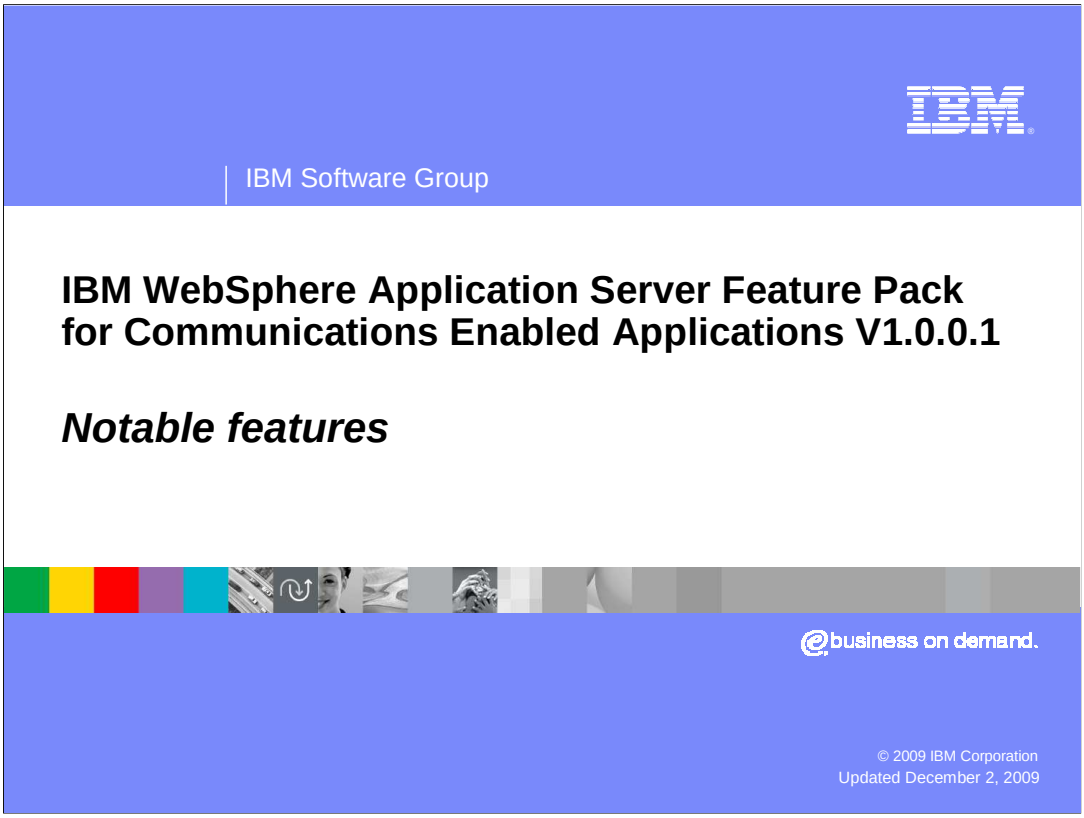

This presentation will discuss notable new features of the IBM® WebSphere® Application Server Feature Pack for Communications Enabled Applications version 1.0.0.1 release.

Agenda

- Notable new features
- Summary

This presentation will discuss notable new features of the IBM WebSphere Application Server Feature Pack for Communications Enabled Applications version 1.0.0.1.

Section

Notable new features

This section will discuss notable new features for the IBM WebSphere Feature Pack for Communications Enabled Applications version 1.0.0.1.

REST API for initiating calls can specify target device

- In the CEA V1.0 customer/CSR click to call scenario
  - Customer clicks to call
  - Customer answers phone
  - REST call is then made to call CSR to connect to customer
  - Customer and CSR are connected
- CEA monitors the customer phone, then initiates call to CSR

The REST APIs for telephony have been updated in this release of the IBM WebSphere Application Server Feature Pack for Communications Enabled Applications. Specifically, a new parameter has been added to the click to call scenario that uses the PUT/call API.

In a typical use of the click to call widget, a customer will enter their telephone number into the text box and click the “Call Me” button. Their telephone will ring, and they will answer it. A REST call is then made to call the customer service representative to connect them to the customer, and the customer and customer service representative will then be connected to each other over their telephones. The Communications Enabled Applications components will monitor the customer’s telephone during this process, since it was the customer who initiated the telephone based contact. With this method of connecting the customer to the customer service representative, there is no way to reverse the roles of who is calling and who is being connected to the telephone call. In version 1.0.0.1, an extra parameter has been added to the REST API which initiates the telephone calls to identify which telephone to monitor during the sequence of events.

Specify device to control

- CEA V1.0.0.1 allows you to specify the device to monitor
- Instead of having to monitor the customer's telephone and then connect to CSR, can now specify device to monitor
- Can now choose to monitor CSR telephone and then connect to customer's telephone
- Allows for reverse of scenario to be applied
  - CSR can call the customer

New in this release of the Feature Pack for Communications Enabled Applications, a user can specify which telephone the CEA components should monitor. Instead of monitoring the customer's telephone (that is likely not controlled by the enterprise's PBX) when connecting the customer to the customer service representative, the REST API now supports monitoring the customer service representative's device during the transaction. The Feature Pack for CEA version 1.0.0.1 can be used to connect the customer and customer service representative in the reverse order than what is supported with the click to call widget, thereby allowing the customer service representative to call the customer.

How to specify target device

- A new boolean value has been added to the PUT/call API
  - peerDeviceControlled is the new boolean value
- If false or not set, the behavior is the same as it was for CEA V1.0
- If peerDeviceControlled is set to true, the peerAddressOfRecord (CSR side) device is controlled and makes the call

The new parameter that has been added to the PUT/call API is “peerDeviceControlled”. This parameter has a boolean value, specifying true or false to indicate if the peer device should be controlled. If the boolean value is false or not specified, the REST API establishes a telephone call between the two parties in the manner which was supported by version 1.0 of the Feature Pack for CEA. This behavior is the same as the click to call scenario where a customer initiates a call using the click to call widget, and is then connected with the customer service representative. If the peerDeviceControlled parameter has a value of true in the PUT/call API call to the CEA service, the peer address of record device (the Customer Service Representative side) is controlled to make the call. In this instance the Customer Service Representative’s telephone will ring, and then the CEA service will connect that device to the telephone number of the customer.

Converged SIP application overview

- Converged SIP applications are applications that incorporate both HTTP and SIP components
  - For example the Plants By WebSphere sample shipped with the CEA feature pack
- When HTTP and SIP components work together the two components exist on separate sessions
  - SIP session
  - HTTP session
- Both sessions use separate thread pools
  - The Feature Pack for CEA asynchronous invocation API should be used to coordinate SIP and HTTP threading

A converged SIP application is an enterprise application that involves some SIP components and some HTTP components. An example of a converged application is the Plants By WebSphere application which is provided as a sample with the IBM WebSphere Application Server Feature Pack for Communications Enabled Applications. It has a Web based component, which is the sample plants store application, and it also has SIP related components that are included with the click to call and call notification widgets. The widgets initiate SIP activities while the Plants by WebSphere application initiates SIP related activities by using an HTTP session and Web related pages that host the SIP widgets.

The Web container and the SIP container in IBM WebSphere Application Server each have their own notion of session and affinity. The IBM WebSphere Application Server SIP container also has its own notion of a session and affinity. These two components must come together and cooperate if they are both used in the same application, for example the Plants by WebSphere sample application.

Converged SIP application Web service support

- A new method has been provided for applications using Web services
  - WSApplicationSession.createEPR()
  - EPR = end point reference
- This method returns an endpoint reference updated with the application session ID that can be used in Web service SIP converged applications
- End point reference passed to Web service clients to ensure requests are targeted at the correct session
- Requests are targeted at the correct HTTP session that has a reference to the correct SIP session

SIP requests and HTTP requests associated with the same user instance need to go to the same place. Proxies performing routing will not know where to send requests from Web service clients to a converged application after a CEA Web service session is established. After a session is established Web service client calls in a converged SIP application can land on the wrong server, and the application could fail. The new method createEPR on the WSApplicationSession class solves this problem. Web service applications that call this method are returned an end point reference. Web service clients calling the application will then use the end point reference to correspond with the service hosted on the IBM WebSphere Application Server with the Feature Pack for Communications Enabled Applications. When clients use the end point reference, it will ensure that the calls made to the service are routed to the appropriate HTTP and SIP sessions. Without the end point reference, there is no guarantee that the Web service client calls will make it to the correct HTTP and SIP sessions after the session is established.

Converged SIP application Web service support

- When using the generated end point reference
  - The proxies and containers know how to map the request to the right location
  - The request is sent to the correct server, HTTP session, and the correct corresponding SIP session
- Without this end point reference
  - The request might not get routed to the correct session causing the application to fail
- The end point reference does not
  - Ensure that the correct thread is accessed, the Asynchronous Invocation API should be used for that

Web service clients that use the end point reference generated by the new method will send the request to the correct server and the correct HTTP and SIP sessions. Server proxies and containers know how to map the request from the end point reference to the correct location. The end point reference contains an affinity key used by proxies to determine the server and HTTP session to target the incoming request for the Web service. One important thing to note is that this new feature does not help with threading. Application developers must still pay close attention to threading when working with a converged application to ensure that the HTTP and SIP sessions are not accessing common objects simultaneously and therefore corrupting object states. The Asynchronous Invocation API should be used in converged SIP applications to ensure that common objects are accessed correctly by the HTTP and SIP threads.

This section will summarize the notable new features of the IBM WebSphere Application Server feature pack for Communications Enabled Applications version 1.0.0.1.

Summary

- REST API for initiating calls can specify target device
- Converged SIP application Web service support

Converged SIP application support ensures Web service clients correctly send their requests to the appropriate waiting HTTP and SIP sessions. Another new feature specifies the target device in a call scenario, which can now assist the customer service representative in placing calls to their customer.

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