Using PI Web Services and PI WebParts with Silverlight for Creative Solutions

Presented By:

Lonnie A. Bowling
DST Controls, Benicia CA

OSIsoft®

Introduction

Objectives

- Understand how to use Silverlight
- Connect PI Web Services with Silverlight
- Create Silverlight Web Parts in SharePoint 2010
- Adding another tool on the belt

OSIsoft.

Why use Silverlight Web Parts?

Need to present data in a unique way

Extend PI System functionality

Improved user experience

Better support in SharePoint 2010

Easily connects to PI Web Services

OSIsoft®

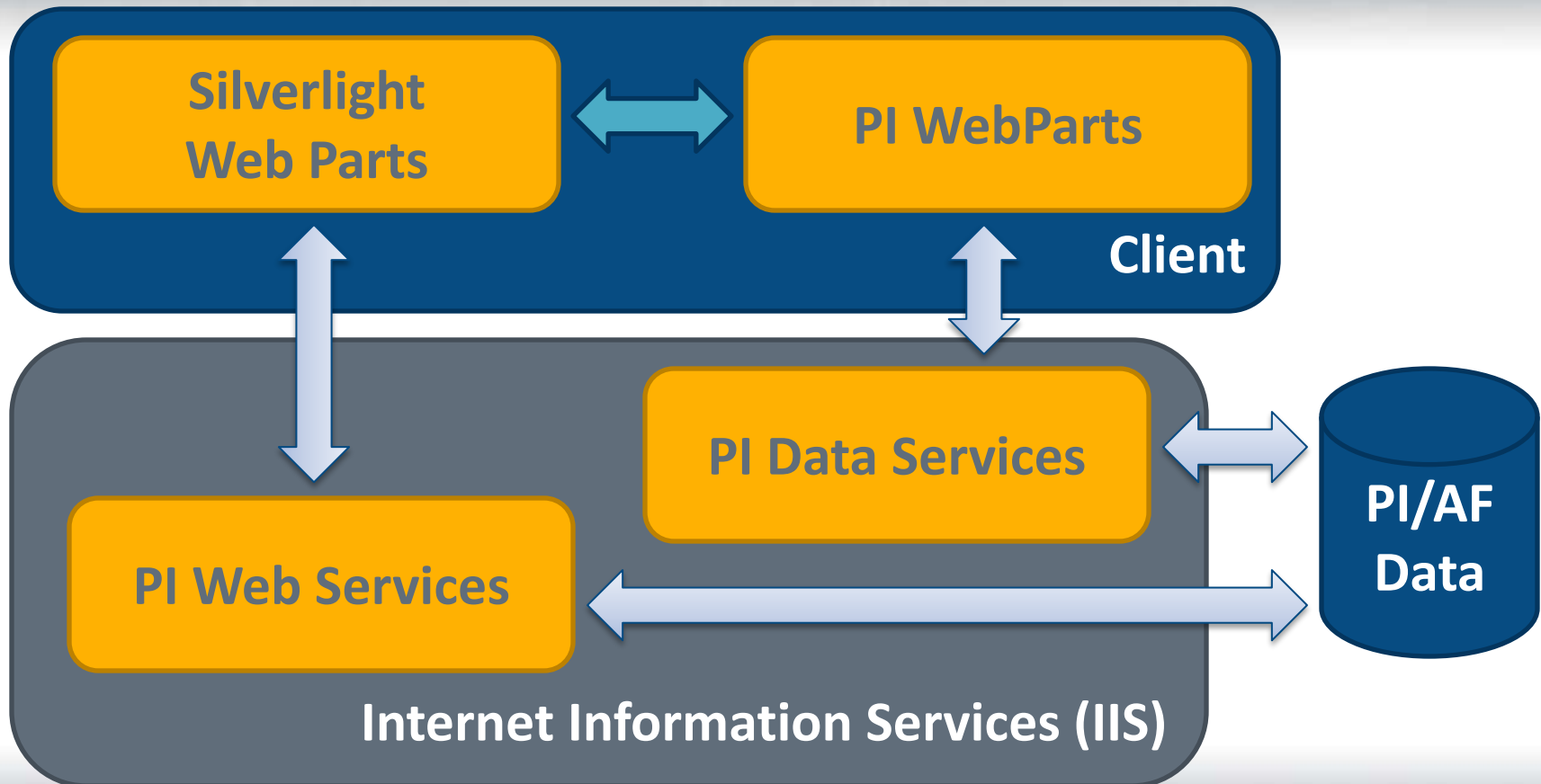# Building Blocks

Client Devices Viewing
Web Pages

PI WebParts

Silverlight
Web Parts

SharePoint 2010

Internet Information Services (IIS)

OSIsoft®

Communications

KPI Demo

Building a solution

- Create a Silverlight Application

    Min/Avg/Max KPI for a PI Tag

    Have selectable time ranges (-1h, -1d, -1w)

- Connect to PI Web Services

- Deploy to SharePoint as a Web Part

OSIsoft.

Create the KPI Application

- Details and or screenshot(s) of the demo

Installing PI Web Services

Don't install on SharePoint site

Edit the web.config file for basicHTTP

Look on vCampus discussion for more
   details

OSIsoft.

SharePoint 2010

Improved support for Silverlight

"Create" page example

Out of Box (OOB) Silverlight web part

Demo - deploy application to SharePoint

OSIsoft.

Review

Explained how the blocks are connected
- IIS/Web Services/SharePoint/Silverlight/Web Parts

Created a Silverlight KPI application

Connected to PI Web Services and retrieved summary data

Deploying to SharePoint as a web part

OSIsoft.

What Next?

Deploy as a connectable web part to interconnect to other PI WebParts

Use PI SDKs to create custom web services

Out-of-Browser support

"Pro Silverlight 3 (4) in C#" - Matthew MacDonald

Use Case – Notifications Web Part

OSIsoft®

Notifications Web Part

Shows active notifications

Search for historical notifications

Auto refresh

Acknowledged functionality

Give it a Go!

New "tools on the belt" to use on your next project.

Try writing your own applications; it is fun, rewarding, and you'll impress your friends!

OSIsoft.

Thank You!

OSIsoft®

Connecting PI Web Service

Add a reference to the project
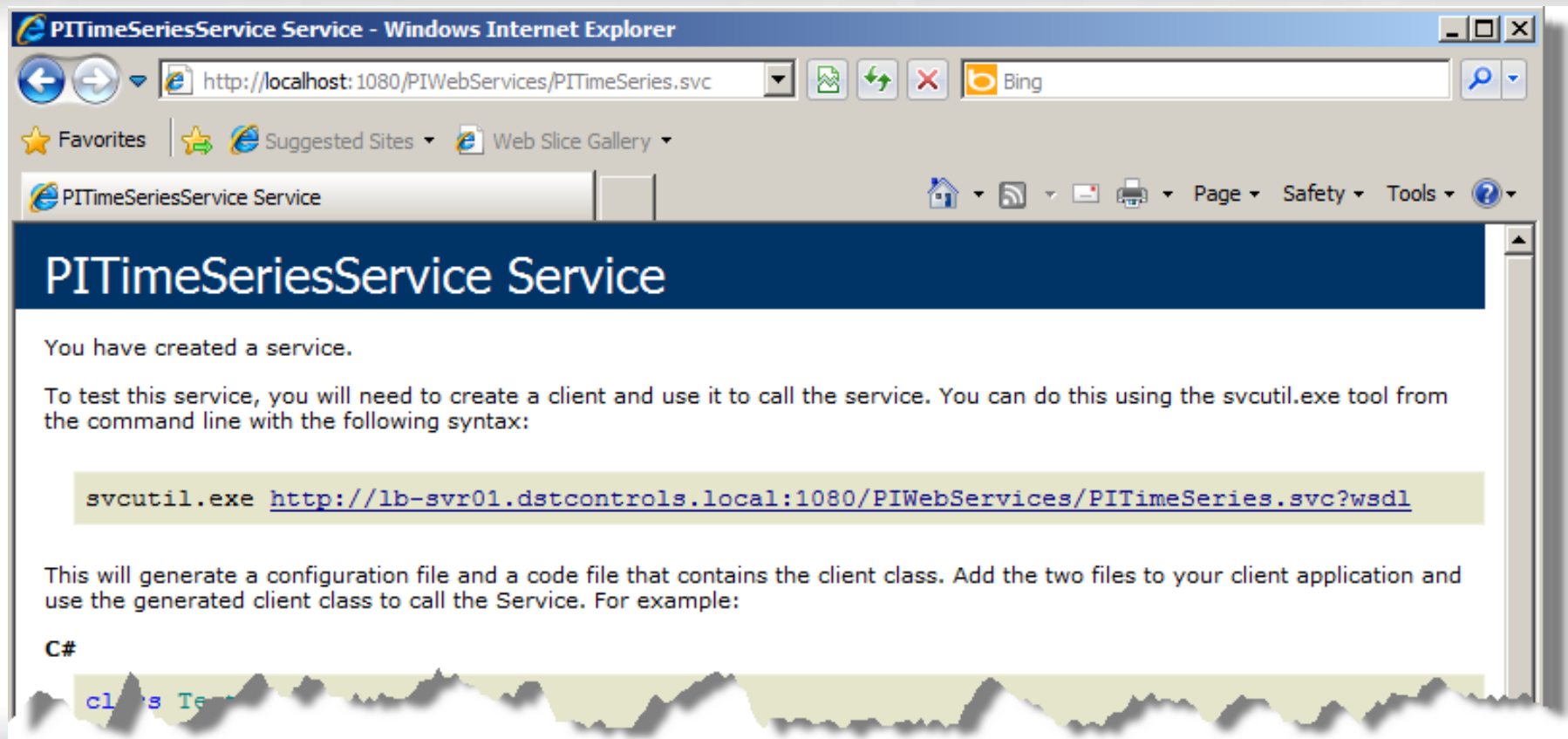
Create an endpoint and binding

Asynchronous calls required for Silverlight

Call GetPIDataSummary for min/avg/max

Demo – connect and test

OSIsoft.

Installing PI Web Services

Installing PI Web Services

```
<services>
  <service behaviorConfiguration="PIDataService.ServiceBehavior" name="PIWebServices.PIDataService.PITimeS
    <endpoint address="mex" binding="mexHttpBinding" name="mexBasicEndpoint" contract="IMetadataExchange"
    <endpoint binding="wsHttpBinding" bindingConfiguration="wsBinding" name="BasicEndpoint" bindingNamespa
      <identity>


    <service behaviorConfiguration="PIDataService.ServiceBehavior" name="PIWebServices.PIDataService
      <endpoint address="mex" binding="mexHttpBinding" name="mexBasicEndpoint" contract="IMetadataEx
      <endpoint binding="BasicHttpBinding" bindingConfiguration="basicBinding" name="BasicEndpoint"


<serviceCredentials>
  <windowsAuthentication includeWindowsGroups="true" allowAnonymousLogon="true" />
  <issuedTokenAuthentication allowUntrustedRsaIssuers="true" />
</serviceCredentials>
```