Consumer IDE

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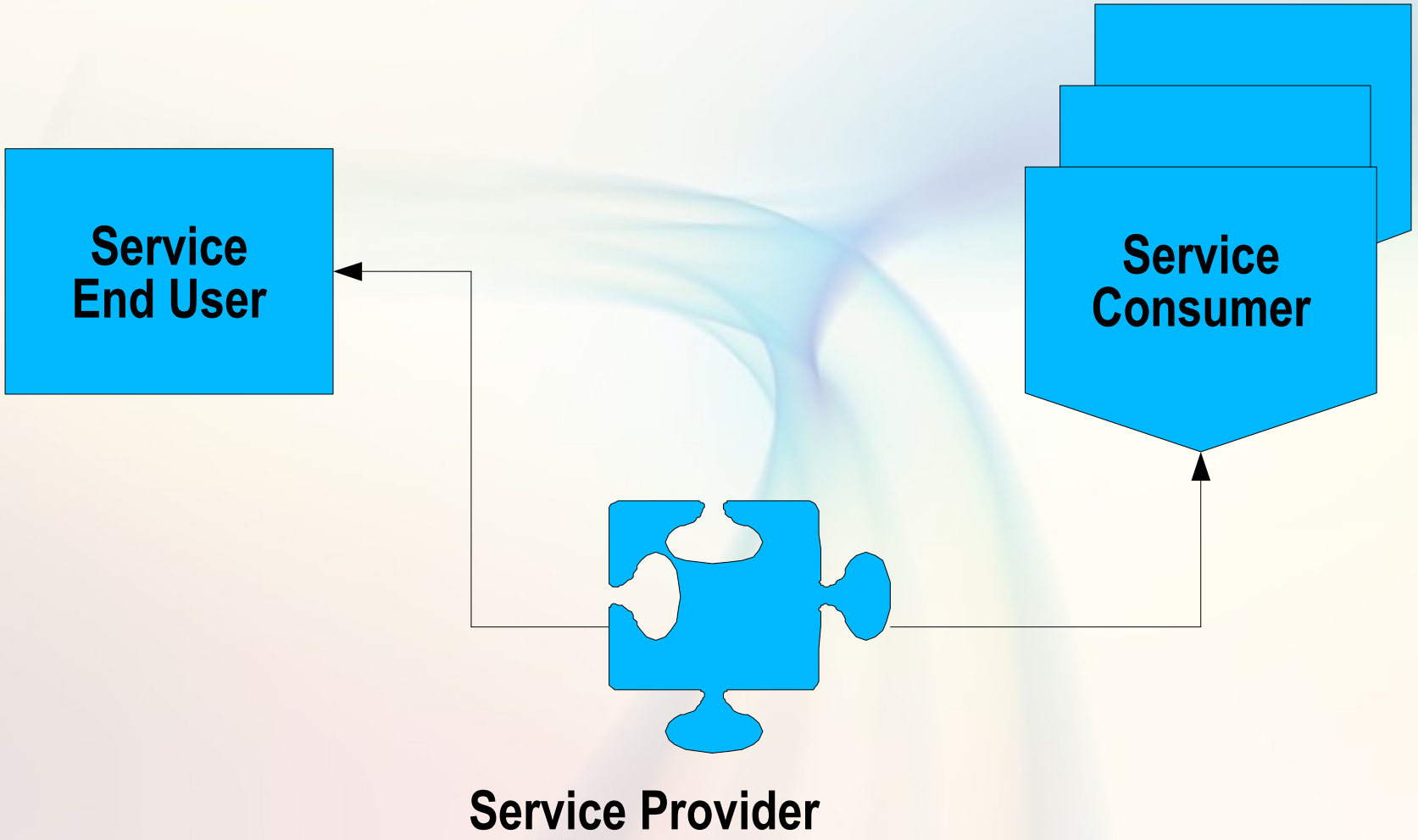
Agenda

- Introduction
- Problem Statement
- Demo 1: End user
- Demo 2: Service Consumer
- Demo 3: Service Provider
- Demo 4: Special Feature on Demand Tools
- Conclusion
- Q/A

Problem Statement

- Choice
- Download size
- Startup time
- Performance

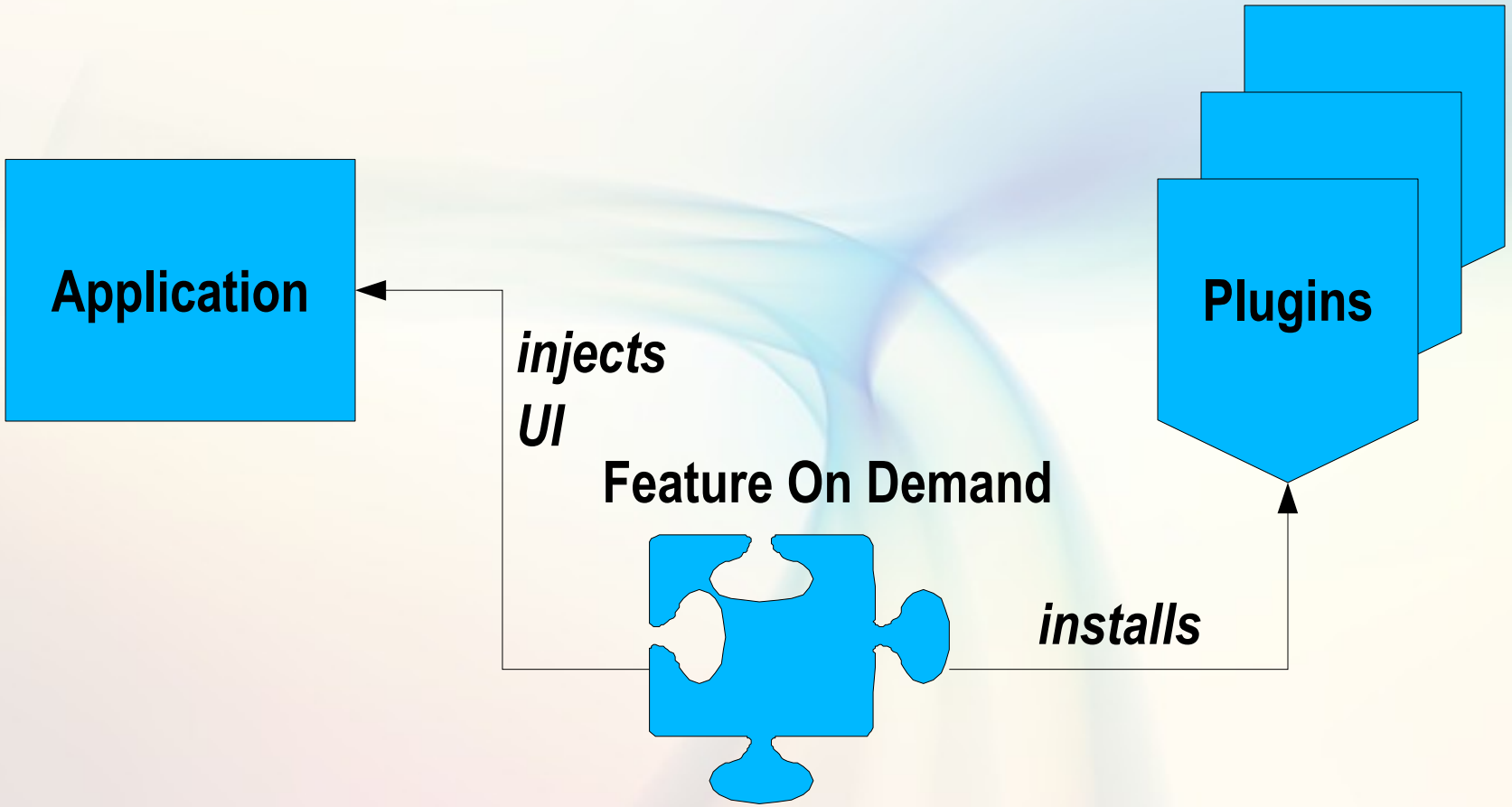
Actors



Demo 1: Service end user

- Show Feature on Demand in Action
  - Concept can be used in multiple applications on the NetBeans Platform
  - Example: Maven in NetBeans IDE
    - Open Maven project without Maven
    - Create new Maven project without Maven
  - Example: VisualVM
    - GlassFish plugin

Demo 1: Service end user (cont.)

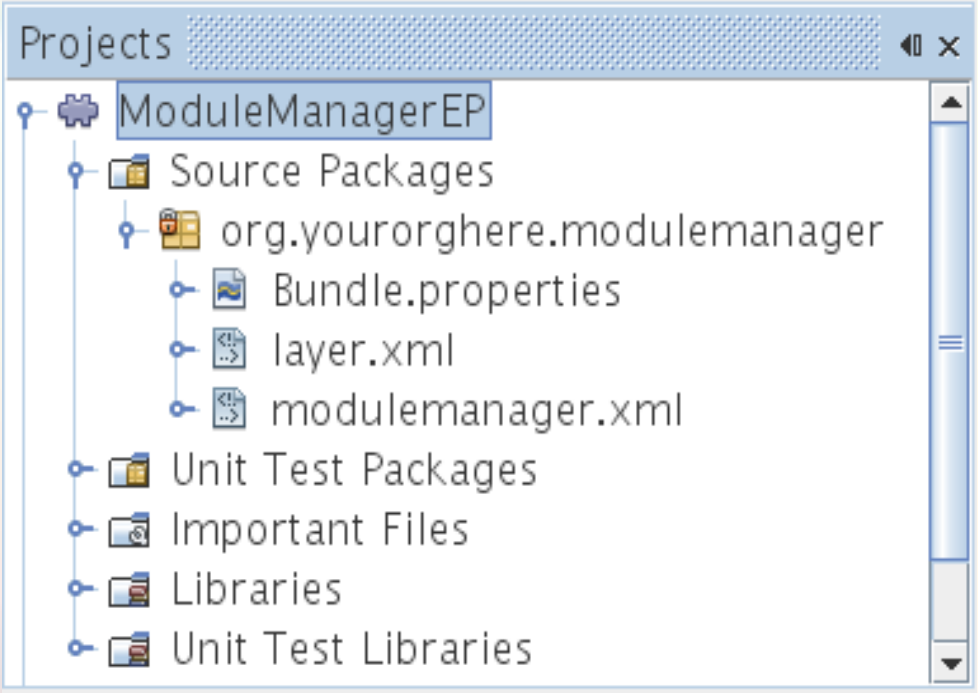


Demo 2: Service consumer

- Service consumer wants to:
  - provide their own module, which will be installed on demand
  - promote a different module, which will be installed on demand
- Service consumer doesn't want to:
  - learn about the application's infrastructure

Demo 2: Service consumer

- Entrypoint exists
- Developer uses XML file and layer to let service end user install modules on demand



Demo 2: Service consumer

- How to consume an entry point
  - > Know the concept
  - > Know how to declare ui in XML
  - > Know public methods in API
  - > Know how to declare in layer.xml

Entry Point Registration

```
1.  <filesystem>
2.      <folder name="VisualVM">
3.          <folder name="ExplorerPopupSelection">
4.              <file name="org-netbeans-modules-consumerentrypoints-GlassFishApplicationTypeAction.instance">
5.                  //Call to the API:
6.                      <attr name="instanceCreate"
7.                          methodvalue="org.netbeans.modules.consumervisualvm.api.ApplicationTypeAction.newAction"/>
8.                  //Application type for which the menu item will be shown:
9.                      <attr name="mainClassName" stringvalue="com.sun.enterprise.server.PELaunch"/>
10.                 //Code name base of plugin in update center:
11.                     <attr name="pluginCodeName" stringvalue="net.java.visualvm.modules.glassfish"/>
12.                 //Which bundle:
13.                     <attr name="SystemFileSystem.localizingBundle"
14.                         stringvalue="org.netbeans.modules.consumerentrypoints.resources.Bundle"/>
15.                 //Which key:
16.                     <attr name="ActionName" stringvalue="org-netbeans-modules-consumerentrypoints
17.                         GlassFishApplicationTypeAction" />
18.             </file>
19.         </folder>
20.     </folder>
21. </filesystem>
```

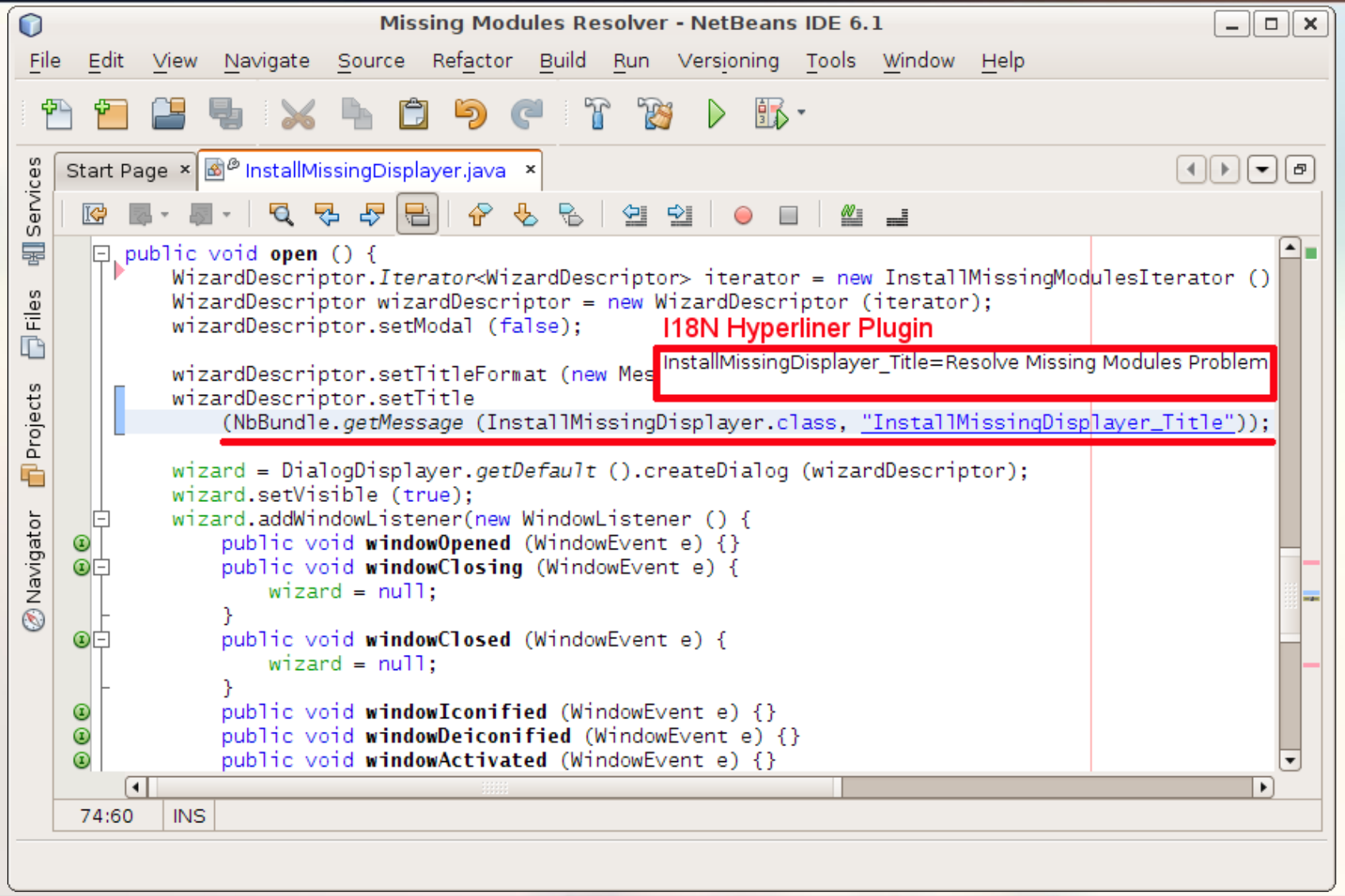
Layer Registration

```
1.  <filesystem>
2.      <folder name="ConsumerVisualVM">
3.          <file name="glassfish.instance">
4.           //API class, holds the delegate layer and name:
5.           <attr name="instanceCreate"
6.              methodvalue=
7.              "org.netbeans.modules.consumervisualvm.api.PluginInfo.create"/>
8.           //Presence of this plugin determines whether delegate is injected:
9.           <attr name="codeName"
10.               stringvalue="net.java.visualvm.modules.glassfish"/>
11.          //Registers the delegate layer:
12.          <attr name="delegateLayer"
13.               urlvalue="nbresloc:/org/netbeans/modules/consumerentrypoints
14.               resources/glassfish.xml"/>
15.         </file>
16.     </folder>
17. </filesystem>
```

Demo 3: Service provider

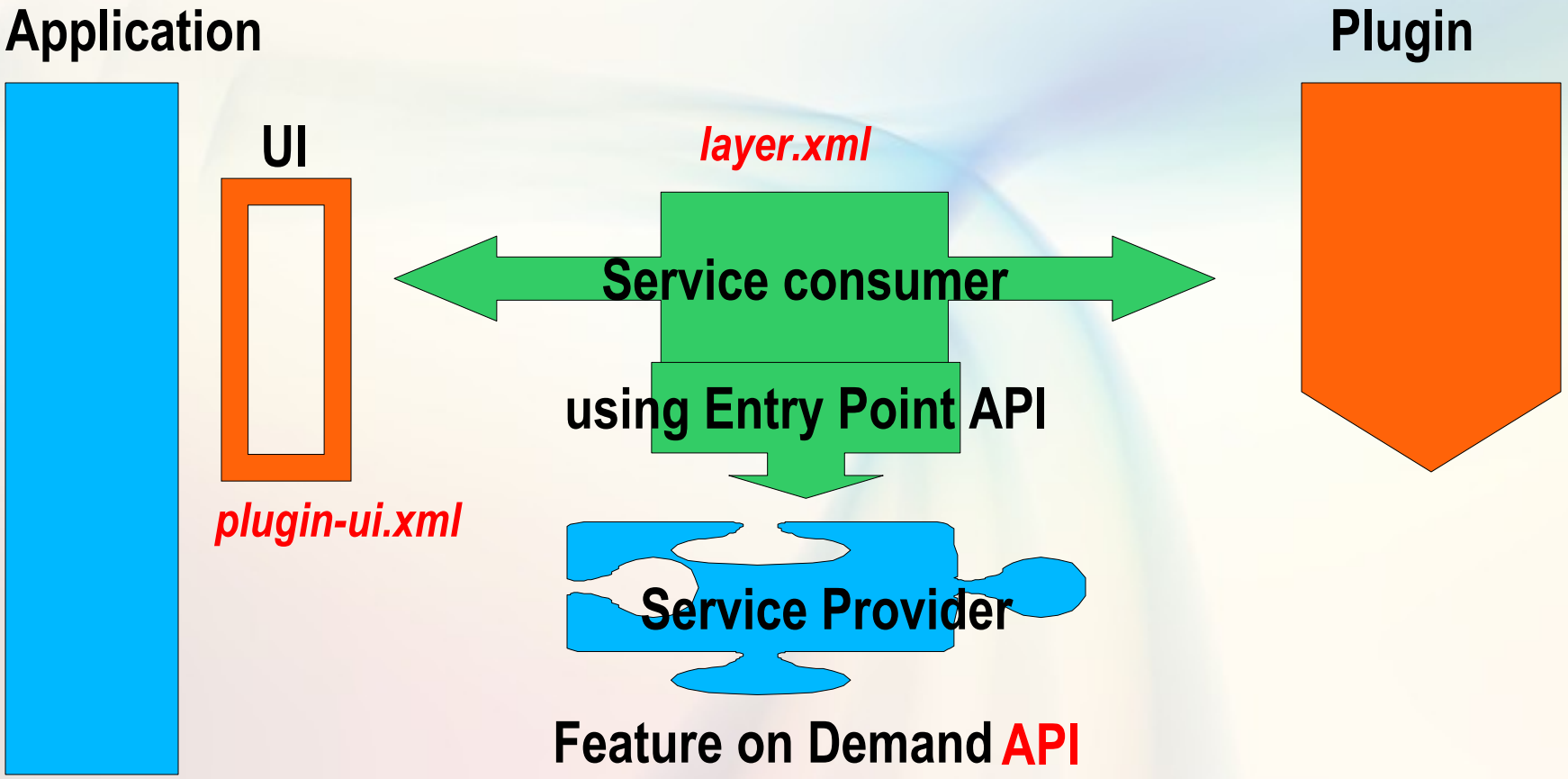
- How to provide an entry point
  - > Developer creates own entry point
  - > Example: MIME-specific Action

Demo 3: Service provider (cont.)



Demo 3: Service provider (cont.)

- How to achieve own MIME-Type-specific Action?



Demo 3: Service provider (cont.)

- Declare FeatureInfo in layer.xml

```
<file name="enable-i18n-hyperlinking.instance">
 <attr name="instanceCreate" methodvalue="org.
  [...].FeatureInfo.create"/>
  <attr name="codeName"
  stringvalue="org.netbeans.modules.editor.hyperlinking.i18n"/>
  <attr name="delegateLayer" urlvalue="nbresloc:/org/
  [...]/resources/enable-i18n-hypelinking-layer.xml"/>
</file>
```

Demo 3: Service provider (cont.)

- Declare Own Action

```
<folder name="Actions">
    <folder name="Tools">
        <file name="I18N-Action.instance">
            <attr name="instanceCreate"
methodvalue="org.netbeans.spi.actions.support.Factory.delegate"
/>
            <attr name="delegate"
methodvalue="org.netbeans.modules.autoupdate.featureondemand
.api.Factory.newAction"/>
            <attr name="SystemFileSystem.localizingBundle"
stringvalue="org.[...].resources.Bundle"/>
        </file>
    </folder>
</folder>
```

Demo 3: Service provider (cont.)

- Declare **Java Source** specific action in NetBeans editor

```
<folder name="Editors">
    <folder name="text">
        <folder name="x-java">
            <folder name="Popup">
                <file name="I18N-Action.shadow">
                    <attr name="originalFile"
stringvalue="Actions/Tools/I18N-Action.instance"/>
                </file>
            </folder>
        </folder>
    </folder>
</folder>
```

Demo 3: Service provider (cont.)

- Feature On Demand API **Factory** class

```
public final class Factory {
  private Factory() {}
  // declared in Service Consumer declaration
  public static ActionListener newAction(FileObject fo) {
    return new FeatureAction (fo);
  }
  ...
}
```

Demo 3: Service provider (cont.)

- Implementation of FeatureAction

```
public class FeatureAction implements ActionListener, Runnable {
    public FeatureAction(FileObject fo) {this.fo = fo;}

    public void actionPerformed(ActionEvent e) {
        RequestProcessor.getDefault().post(this);
    }

    public void run() {
        URL url = // XML layer
  FoDFileSystem.getInstance().getDelegateFileSystem(fo);
        String codeName = // plugin code name
  Feature2LayerMapping.getInstance().getCodeName(url);
        ModulesInstaller.installModules(codeName);
    }
}
```

Demo 4: Feature on Demand Tools

- Entry Point Consumer Wizard
  - > Template that generates all the files.
  - > Everything generated in two clicks.
  - > Installs into NetBeans Platform.
  - > Each entry point might need a wizard.

Conclusion

- When: Today
- Where: NetBeans sources/contrib
  http://hg.netbeans.org/main/contrib
  - autoupdate.featureondemand
  - featureentries
  - spi.actions.support
- More info:
  - http://wiki.netbeans.org/FeatureOnDemand
  - http://blogs.sun.com/geertjan/
  - http://blogs.sun.com/rechtacek/

Q/A

- Questions?