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详解Windows Mobile 6.0 状态 (State) 与通知代理 (Notification Broker)

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What We Will Cover

- Monitoring System States in managed code on Windows Mobile® 6.0 devices
- Taking action on System State changes using the State and Notification Broker
- Adding user-defined states

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收听本次课程需具备的条件

- Some knowledge of managed application development for Windows[®] operating systems using Microsoft[®] Visual Studio[®] 2005

Level 300

Agenda

- Introduction
- Windows Mobile 6.0 managed APIs
- State and Notification Broker
- Adding your own states
- Launching applications on state changes
- Conclusion

Introduction

Retrieving System States in the past

- Prior to Windows Mobile 5.0 devices retrieving System States in managed code was not always easy
 - System States not exposed as managed APIs
 - Frequent P/Invokes necessary
 - Inconsistent APIs to retrieve System States

Introduction

System States in managed code

- With Windows Mobile 5.0 and later, device System States can be retrieved using managed code
 - System States exposed as managed APIs
 - No more P/Invokes needed
 - Consistent APIs to retrieve System States
 - Over 100 System States exposed

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Demonstration One

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Retrieving the current display orientation

Windows Mobile 6.0 Managed APIs Development Tools

- Download and install the Windows Mobile 6.0 SDK for Pocket PC and / or SmartPhone
 - Available for download here:
<http://msdn2.microsoft.com/en-us/windowsmobile/default.aspx>
- Required to target Windows Mobile 6.0 devices
- Integrate in Visual Studio 2005
- Ship with improved device emulators

Windows Mobile 6.0 Managed APIs Overview

- Look at Microsoft.WindowsMobile namespace
 - Collection of classes, enumerations, and delegates
 - Ships as part of the Windows Mobile 6.0 SDK
- Provide functionality for managed developers
 - Application and platform level APIs
 - More control of the device in managed code
- Supplement existing libraries
 - No part of the Microsoft® .NET Compact Framework 2.0

State and Notification Broker

Get easy access to device information

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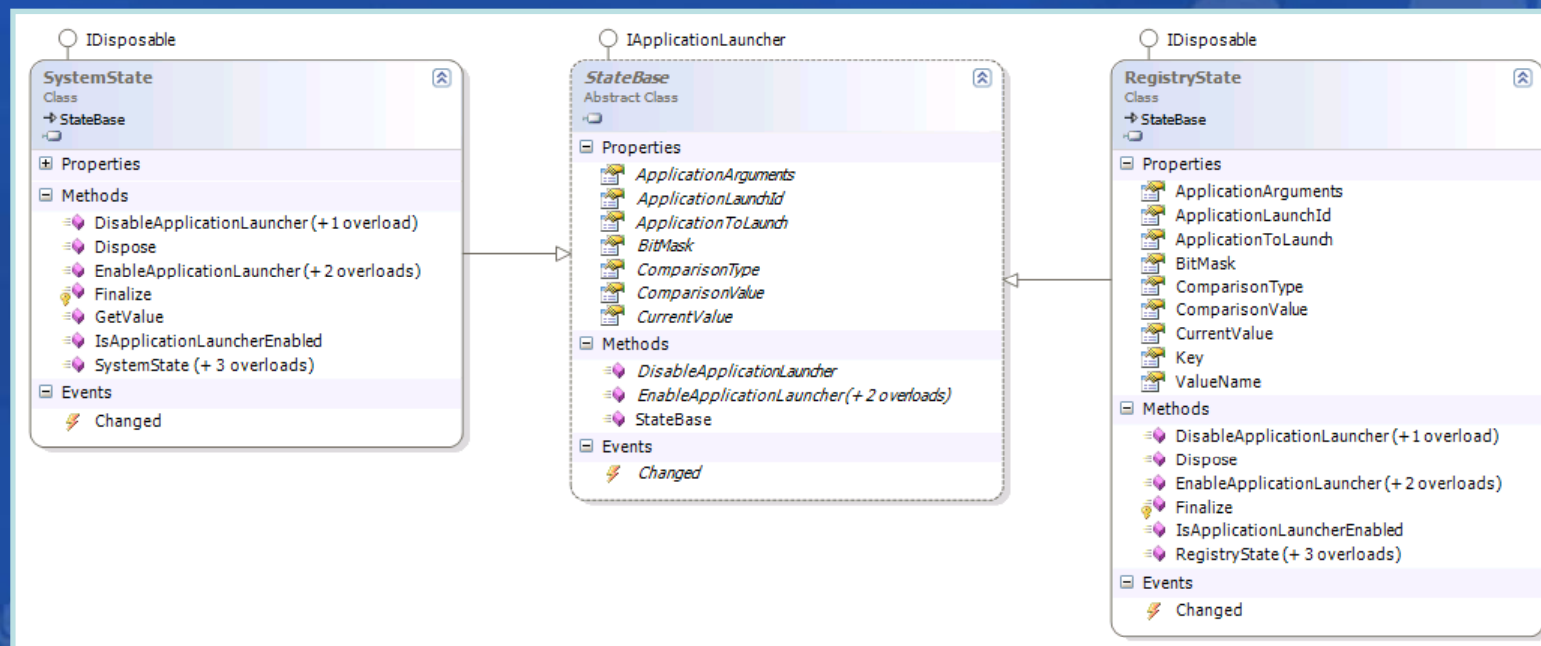
- Probably the most powerful and useful Windows Mobile 6.0 API
- Retrieve and update over 100 different system states
- Get notified on state changes
- Consistent programming interface
 - If you can access one, you can access them all
- No need to P/Invoke to native code

State and Notification Broker Object Model

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- SystemState wraps predefined states
- RegistryState supports custom states



State and Notification Broker Implementation

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- The system registry is used as central store
- System wide states are stored under
HKEY_LOCAL_MACHINE\SYSTEM\STATE
- Per user states are stored under
HKEY_CURRENT_USER\SYSTEM\STATE
- Newly added (application) states are stored in the
registry as well

State and Notification Broker

Receiving Notifications

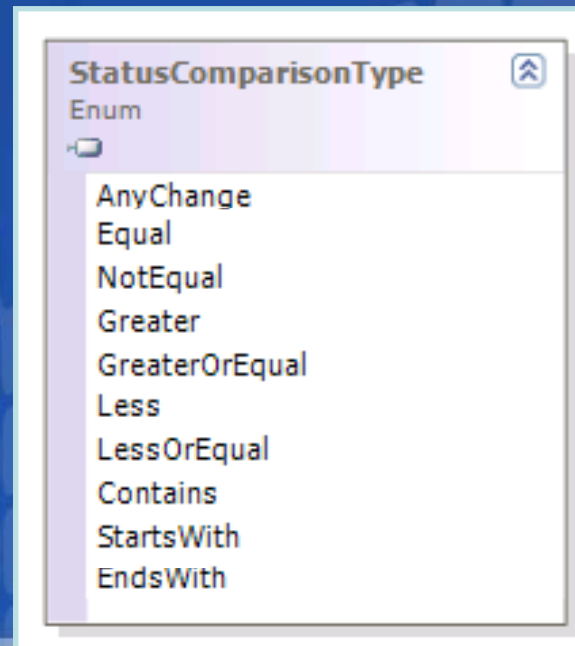


- Create an instance of the SystemState class
- Pass a SystemProperty value that matches the state you want to monitor
- Attach a delegate to the SystemState instance's Changed event
- Process the NewValue property of the ChangedEventArgs parameter
- Dispose the instance of the System State class

State and Notification Broker

Conditional Notifications

- Restrict notifications by applying conditions
 - Achieved by comparing state values
 - Default comparison is AnyChange



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Demonstration Two

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Reacting on System State
changes

Adding Your Own States

Applications can have state info as well

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- Using the system registry as a central store, applications can create their own states
- Create an instance of the RegistryState class to define your own state
- React on state changes using the Changed event, similar to SystemState

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Demonstration Three

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Defining and using your own
states

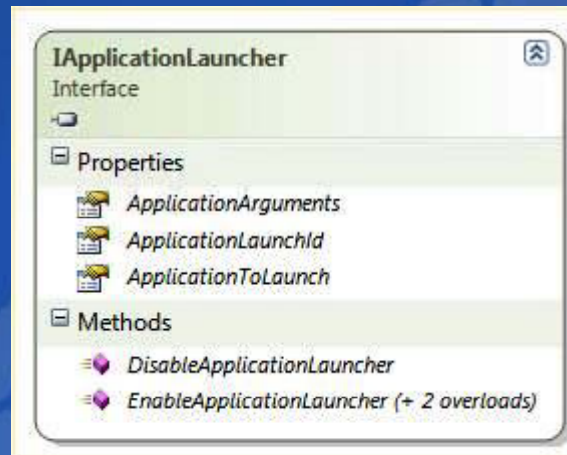
Launching Applications

Beyond monitoring states

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- StateBase implements the `IApplicationLauncher` interface



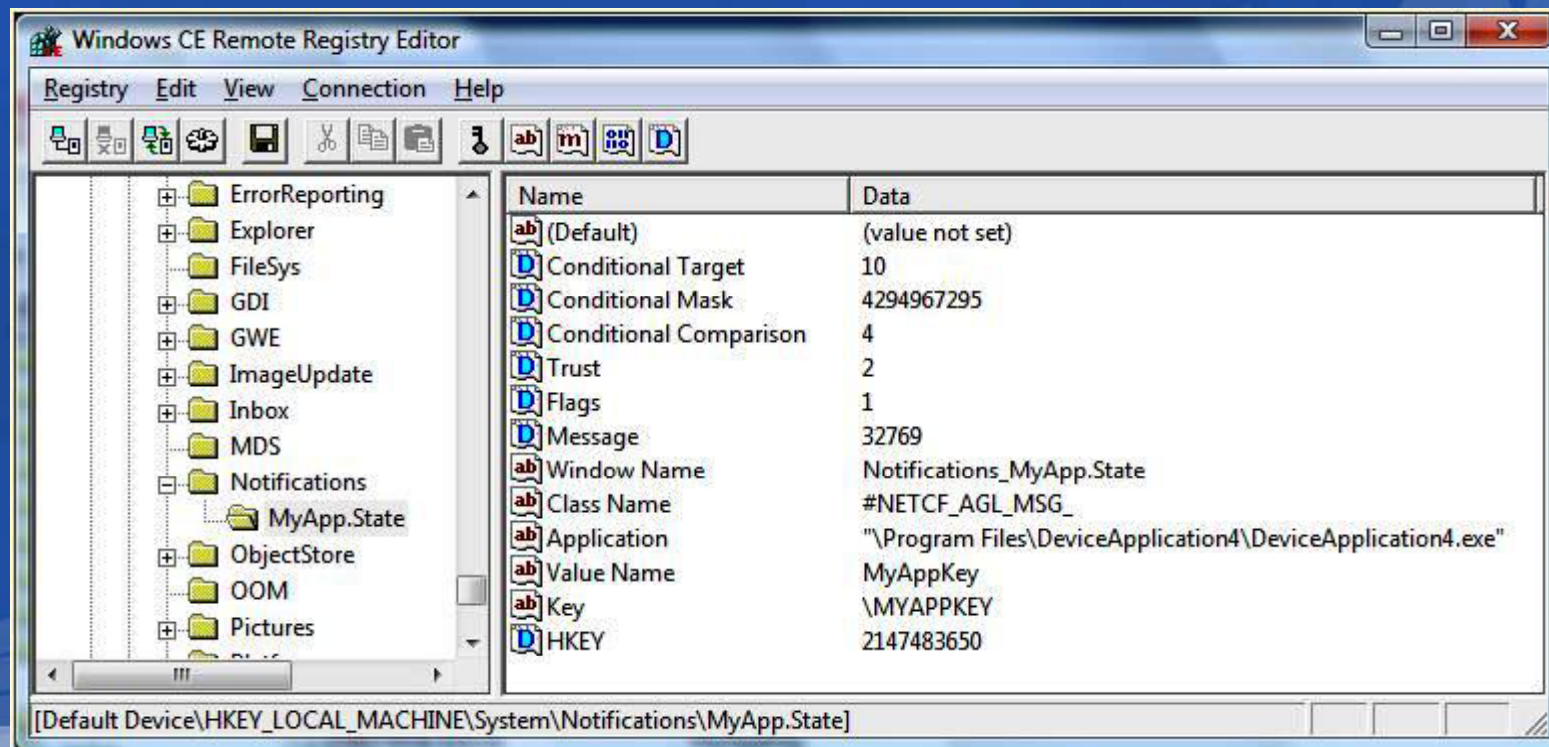
ApplicationLauncher

Under the hood

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- Stores additional information in the registry
- Check out
HKEY_LOCAL_MACHINE\SYSTEM\NOTIFICATIONS



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Demonstration Four

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Starting applications on state changes

Session Summary

- State and Notification Broker is a very powerful set of managed APIs for Windows Mobile 5.0 or later devices
- Allows monitoring system and user-defined states and act on state changes
- Reacting on state changes allow you to create better Mobile Device applications

For More Information

- Mobile Developer Center
<http://msdn.microsoft.com/mobility>
- MSDN[®] Microsoft[®] Windows Embedded Developer Center
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Question & Answer

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