Using The Microsoft Push Notification Service for Windows Phone Applications

Don Sorcinelli
Microsoft Most Valuable Professional (“MVP”)
Mobile Devices

Agenda

- What Is MPNS?
- Why MPNS?
- Requirements
- Application Flow
- Push Notification Types

Windows Phone 7 Challenges

- Applications are not consistently running in background
  - Windows Phone 7.5: Background Agents are not true full-time background processing
- Direct server-to-client communication not possible
- Real-time information dissemination suffers

What Is MPNS?

- The Microsoft Push Notification Service (“MPNS”) –
  - Provides a centralized messaging mechanism for server-to-client communication
  - Supports a consistent and reliable model for delivery of application-specific information to subscribed devices

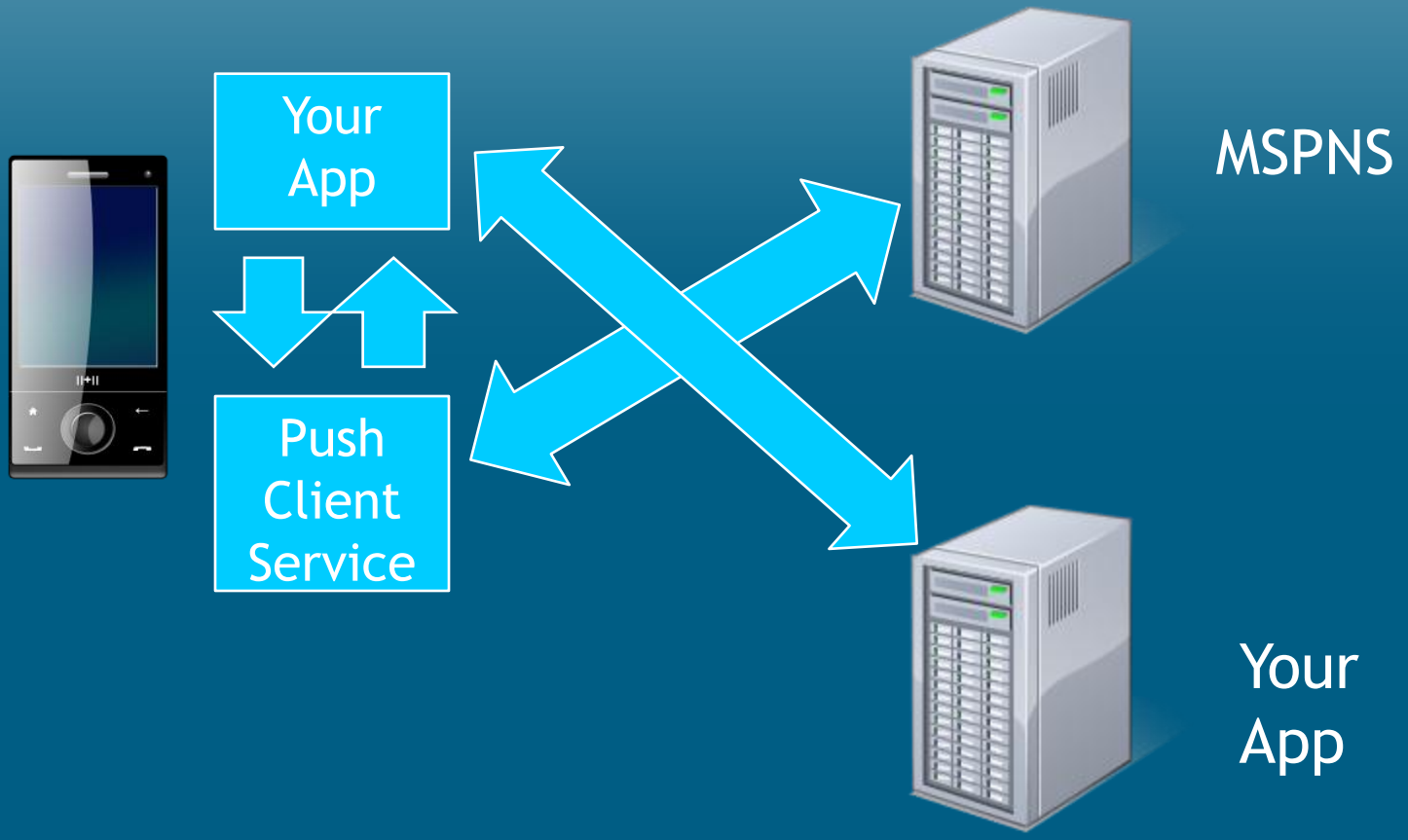
Why Use MPNS?

- GOAL: Real-time notifications and actions based upon server-side changes/information to appropriate devices
- EXAMPLES:
  - New server data available
  - Alerts/Notifications

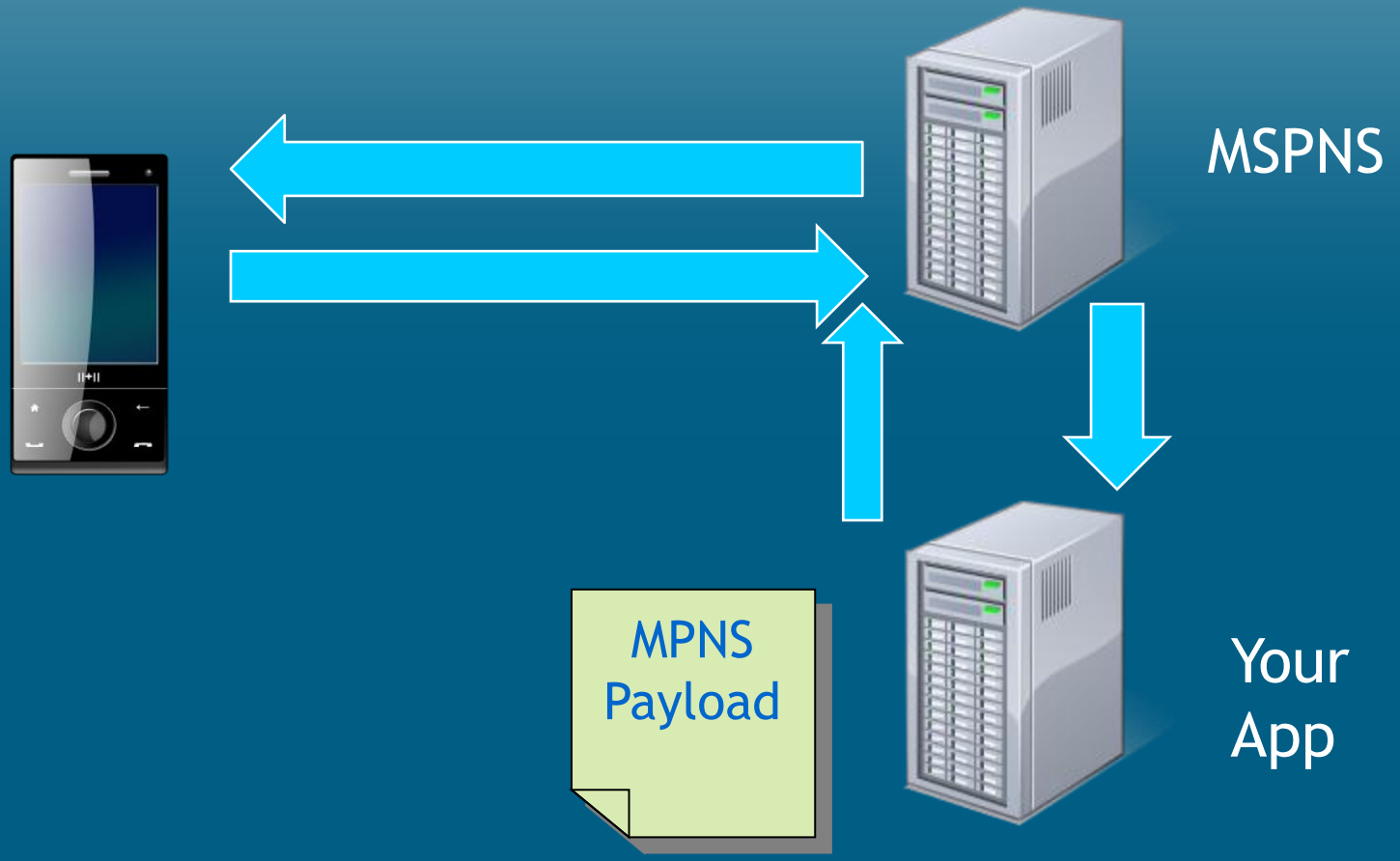
MPNS Requirements

- Server-Side component of the larger application architecture
  - Ability to accept client application registration events
  - Ability to send notifications to MPNS
  - Persistent storage of applicable information
- Client-Side application logic to…
  - Register the application for MPNS
  - (Optional) Logic to show appropriate information in the aplication

MPNS Application Flow - Registration



MSPNS Application Flow - Messaging



What Constitutes a Message?

- XML
  - `wp:Notification xmlns:wp="WPNotification"`
  - `wp:<Type>` - Type of notification
  - `Wp:<Attribute>` - properties
- Content Type – "text/xml"
- Headers
  - `X-WindowsPhone-Target`
  - `X-NotificationClass`

MPNS Message Types - RAW

- Requires the application to be running
  - If not, message will not be received
- Client application can trap using the `HttpNotificationReceived` event

MPNS Message Types - Toast

- Displays a “toast notification” on user’s device
- Can include a URI that points to a specific page (and pass arguments) within your client application
  - Clicking on the toast notification launches/reactivates the application

MPNS Message Types - Tile

- Can update the primary (default) application tile or a secondary tile.
  - Secondary used by setting `SecondaryTile` attribute to a URI
  - Default tile used by setting `SecondaryTile` to a null value

Options for Message Sending

- Roll your own code
- Use the **Windows Phone Push Notification Server-Side Helper Library**
  - http://create.msdn.com/en-us/education/catalog/article/pnhelp-wp7
  - Encapsulates XML creation

MPNS Message Responses

- Sent back through `HttpWebResponse` headers
  - `X-NotificationStatus`
  - `X-DeviceConnectionStatus`
  - `X-SubscriptionStatus`
- More information on codes -
  - http://msdn.microsoft.com/en-us/library/ff941100(v=VS.92).aspx

Resources

- Push Notifications for Windows Phone
  - http://msdn.microsoft.com/en-us/library/ff402537(v=VS.92).aspx
- App Hub
  - http://create.msdn.com/en-US/education/basics/push_notifications

Questions?

Thank You!

- Don Sorcinelli
  - http://www.bostonpocketpc.com
  - donsorcinelli@bostonpocketpc.com