Win 7 Acquistion Performance – M1

Product Group	DMX
Last Updated	06/03/2009
Document Status	Reviewed
Document Version	1
Document Owner	sachapan
Document Location	http://windows/wlx/4/devdocs/Win7%20Acquire%M1.docx
Windows Live Wave	4
Milestone	M1
Priority	(2) Normal

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I. Document History

Date	Author	Description
05/27/2009	*Santosh Chapaneri*	*Created.*
06/03/2009	*Santosh Chapaneri*	*Revised after Dev Doc Review*

II. Review History

Date	Reviewers	Result
06/01/2009	*DMX Live Photo Gallery Dev*	

III. Related Documents

Document	Owner	Location
PM One Pager	*KarthikA*	http://windows/wlx/4/pmspecs/Acquisition%20One%20Pager.pptx

Contents

1. Problem Statement

This is the Design Spec for the M1 Win 7 Photo Acqusition performance work. The PM spec can be found at http://windows/wlx/4/pmspecs/Acquisition%20One%20Pager.pptx

1.1 Goals, Requirements, and Constraints

The primary goal is to leverage Win7 photo acquisition performance work and make the acquisition faster in Wave 4.

2. Solution Overview

2.1 Incorporating the bug fixes of Win7 Photo Acquisition code

Windows 7 team has recognized opportunities to improve the acquisition performance. They have implemented the fixes for most of them. We will be porting these changes to our code base.

The performance improvement bugs are 324368 and 447354 (both of Win7 DB) and the UX bugs are 67405 and 67413 (both of Windows Worklist DB)

3. Solution Details

3.1 Win 7 Bug 324368

Win 7 team reported performance gains by de-serializing the PC side photo post-processing that takes place after each photo is acquired. For each photo being acquired, the following steps occur:

1. Acquire the thumbnail from the device
2. Acquire the picture from the device
3. Set properties on the acquired picture
4. Create a shell thumbnail from the acquired picture.

The solution is to create a worker thread to perform steps 3 and 4, and letting steps 1 and 2 run back to back, to maximize the time utilization. Prototype of the fix is obtained from the Win7 developer and is available at \\dmx\public\sachapan\Win7PhotoAcq\PhotoAcquire.cmd. A new thread is called from TransferItem() with the PostReceive() function for this purpose. The PostReceive is invoked after the photo is imported.

3.2 Win 7 Bug 447354

Skip scanning WMP music sync folders (both hard-coded and folders returned by hints if supported) during enumeration in photo acquisition for all devices. (Win 7 bug fix, changelist 467165)

This will add 4 new functions to the ShellPhotoAcquireSource class: IsMtpDevice, GetNumFolders, SkipSync, and UpdateProgress.

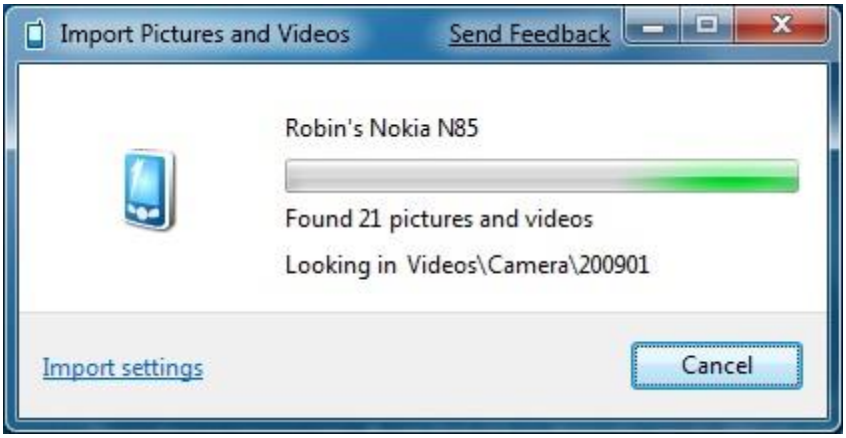
3.3 Windows Worklist Bug 67405

Photo Acquisition enumeration stage UX improvements: Enumerating the photos and videos on the device can sometimes take a long time (over 2 minutes) on devices that do not support hints or bulk operations, and the current experience does not provide any indication that enumeration is

progressing. The UX will be modified to show that the enumeration is still proceeding by making the following changes:

- Show the current folder on the device that Photo Acquisition is looking for photos and videos in
- Change from indeterminate progress bar to determinate progress bar (for supported devices)

(both Win 7 bug fixes)



The Win 7 team added a temporary workaround for Nokia specific device but removed a part of these changes later on. These changes are in the fixes for bugs 37367, 385044 and 374952 (Win 7). The function GetAppropriateContentFolders will be modified for this fix. New interfaces will be defined as follows:

```
interface IPhotoEnumProgressCB : IUnknown
{
   HRESULT SetTotalFolders( [in] DWORD dwTotalFolders );
   HRESULT UpdateEnumerationPercent([in] BOOL fOverall, [in] UINT
nPercent);
   HRESULT SetCurrentFolder( [in, string] LPCWSTR pszFolderName);
   HRESULT ShowLookingIn( [in] BOOL fShowOrHide);
}


interface IPhotoProgressFolder : IUnknown
{
    HRESULT SetProgressFolder( [in, string] LPCWSTR pszProgressFolder );
    HRESULT ShowLookingIn( [in] BOOL fShowOrHide);
   }

interface IPhotoAcquireProgressCBEx : IUnknown
{
   HRESULT GetParentWindow( [out] HWND *hWndResult);
}
```

3.4 Windows Worklist Bug 67413

Improving the coexistence between PhotoAcq and Video Sync. Multifunction devices can stuck in an infinite loop of sync – import – sync – import if such devices are configured to sync video files on PC to device that also runs PhotoAcq. A multi-step approach is outlined in

http://windows/windows7/docs/WEX%20Documents/Devices%20and%20Media/Portable%20Devices/Photo%20and%20Video%20acquisition%20-%20Dev%20Design%20(RC).docx, which includes the changes to PhotoAcq code to exclude the WMP sync folders. (Win 7 bug fix, same changelist 467165)

3.5 Supporting Diagrams

3.6 Assumptions, Dependencies, and Risks

3.6.1 Dependencies

Win 7 Photo Acquisition code

3.6.2 Risks

3.6.3 Assumptions

3.7 Internal and External Special Values

3.8 Performance

The Photo Acquisition performance improvement outlined in Win7's report will be verified with WindowsXRay.

3.9 Scalability

3.10 Privacy

3.11 Internationalization and Localization

3.12 Accessibility

3.13 Instrumentation & Monitoring

3.14 Testable Units

Order	Testable Unit
1	***Bug fix for 324368***
2	***Bug fixes for 447354, 67405 and 67413***

3.14.1 Bug fix for 324368

3.14.1.1 Work Items

Description	Days	Pri	Dev
Invoke a new thread to deserialize the photo post-processing	1.5	1	SaChapan
Testing and measuring the performance of the improved acquisition flow	1.5	1	

3.14.1.2 Dependencies

3.14.1.3 Exit Requirements

WLPG Photo Acquisition performance is improved.

3.14.2 Bug fixes for 447354, 67405 and 67413

3.14.2.1 Work Items

Description	Days	Pri	Dev
Incorporate the changes to PhotoAcq code from Win7 changelist 467165	2.5	1	SaChapan
Test the new UI for Nokia specific (multi-function) devices	0.5	1	

3.14.2.2 Dependencies

3.14.2.3 Exit Requirements

New UI for Nokia specific devices

4. Open Issues

5. Future Considerations

6. Alternate Solutions

7. Review Feedback