Extension Library

Update Site versus Upgrade Pack

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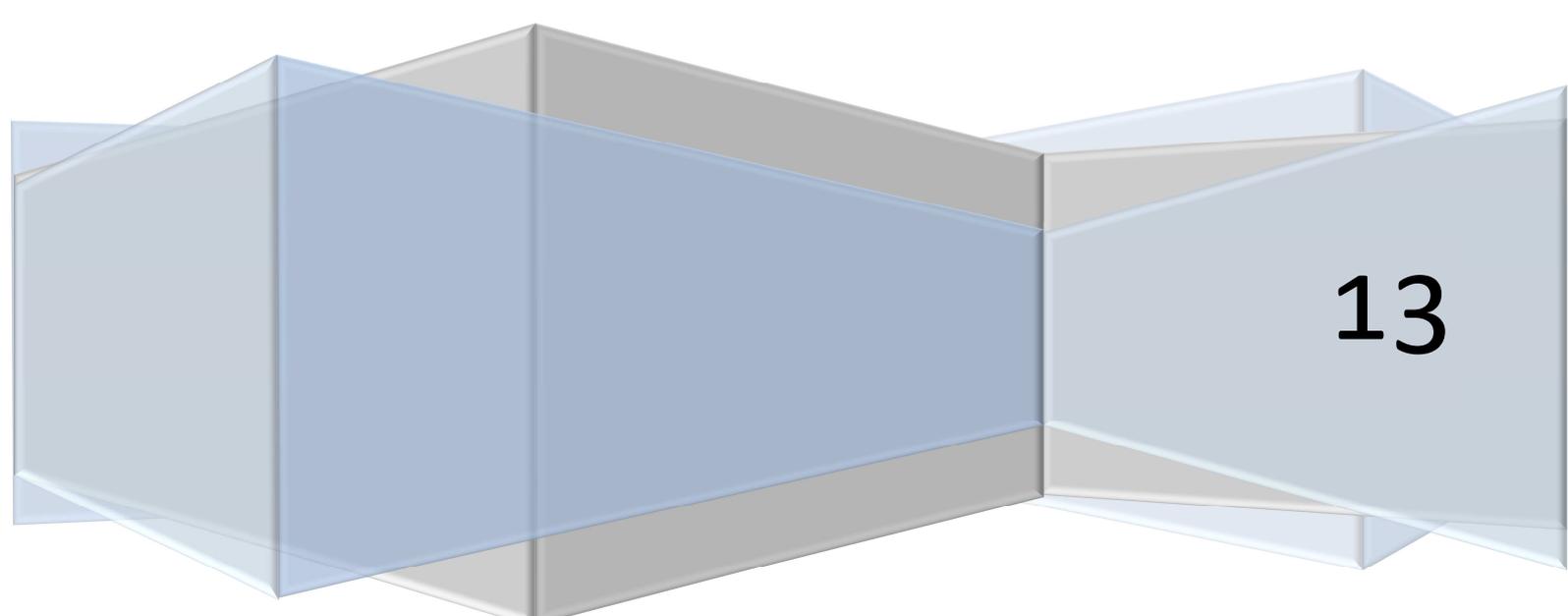
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Introduction

This document discusses the (recommended) way the extension library is distributed within Organization X.

Description

Based on the XPages Extensibility API, the Extension Library provides a set of new artifacts, including controls, which introduces extended capabilities to supplement XPages.

At the moment we see the library distributed in 2 ways:

- Upgrade Pack.
- Update Site database.

Upgrade Pack

The Upgrade Pack is an installation package that contains new features and improvements in Domino Designer.

The main functionality highlights of this upgrade pack include the following:

- XPages Extension Library.
- Domino Designer tooling plug-in.
- Domino Data Services.
- Updated TeamRoom and Discussion templates.

The XPages Extension Library provides additional controls that are ready to use.

The Upgrade Pack is restricted to a specific release of Domino. Currently there is 1 version released which is dedicated to Domino 8.5.3.

The Upgrade Pack 1 is supported by IBM.

Update Site database

An Eclipse update site is a repository for features and plug-ins and it follows a standard format. In IBM Notes the update site is an NSF application where OSGi bundles are dynamically contributed to the OSGi runtime of the Domino server.

The Extension Library will be uploaded to the Update Site application from where it is made available.

A great advantage of this approach is that plugins are not physically installed on the server but started up on HTTP startup of the Domino server.

The Domino OSGi launcher will automatically detect which version of a plugin it should use. Multiple versions of the Extension Library can be hosted by an update site. This increases the delivery of new functionality.

The Extension Library for an Update Site is distributed via OpenNTF at http://extlib.openntf.org/.

Discussion

There should be a discussion what the preferred way to distribute the extension library is. Each method has its advantages and disadvantages:

- Physical installation versus runtime installation.
- Administration overhead.
- IBM support.
- Speed in delivery of new functionality.
- Proven technology vs. Experimental phase.

Physical installation versus runtime installation

The installation (and de-installation) via an Upgrade Pack is a physical installation and demands that a server must be shut down. The installation via an Update Site is not a physical installation and the server does not have to be shut down, only the HTTP task has to be restarted on the server.

The Update Site can be installed on multiple servers via replication and hereby the installation of the Extension Library on multiple servers can be accelerated.

There is a downside to the runtime installation. A Notes server has to have defined in the Notes.INI settings that dynamic bundles can be installed in OSGI via HTTP reset:

http://www-10.lotus.com/ldd/ddwiki.nsf/dx/XPages_Extension_Library_Deployment#Set+the+Notes.INI+variable+-+OSGI_HTTP_DYNAMIC_BUNDLES

In order to have this Notes.INI setting in place the server has to be restarted once.

Administration overhead

The Extension Library provided via OpenNTF has continuous new releases. Most of these releases are bug fixes and the others provide new functionality.

It is likely that developers demand after the installation of latest release via an Update Site, in order to have access to the new functionality. This will create extra requests and administration overhead.

On the other side the physical downtime of a server has a very high impact also on the administration side (announcements, change requests, fall back servers, incident reports sent by ignorant users).

IBM support

Upgrade Pack is "supported" by IBM. You can discuss what that means. For certain you can make a PMR (problem management record) but it is not known if IBM is providing hotfixes for bug fixes for the Upgrade Pack.

Experiences in other PMR's on Notes software (NTF templates for Notes) have not been positive always.

On the other hand one cannot really say that distribution of the Extension Library from OpenNTF via an Update Site is "not supported" by IBM. Since the release of the Extension Library there have been multiple releases (over 30) of the Extension Library. Most of these releases are bug fixes assumed.

There is a lively discussion on the Extension Library on OpenNTF http://www.opentf.org/internal/home.nsf/discussions.xsp?action=openDocument&name=XPages%20Extension%20Library&documentId=523C4281B0889F12862577910060E232 which makes the necessity of support from IBM less.

Speed in delivery of new functionality

In Today's world software suppliers provide more often software updates silently on the background to boost security or to provide new functionality. In the browser world this seems almost to have become a standard.

Being able to deliver new functionality more quickly can bring extra value to the business.

An Upgrade Pack has only been released once until now. The announced Upgrade Pack 2 seems only to be focused on Notes Traveller. In the meantime more than 30 releases are available for the Extension Library on OpenNTF.

Proven technology versus Experimental phase

Upgrade Pack 1 contains only a stable version of the Extension Library. The Extension Library on OpenNTF contains also experimental features (e.g. Social, RDBMS support). These features will someday reside in the 'ordinary' Extension Library.

The features are collected in an Extended Components library. This Extended Components library must be installed via an Update Site. From discussions on the internet it seems to be possible to install this library on top of an Upgrade Pack via and Update Site. But why use 2 methods to distribute functionality when you can combine them via one (via Update Site)?

Comparison

Based upon the previous discussion we will compare the two methods.

	Upgrade Pack	Update Site
Installation	Physical	Runtime
Administration	1 version	Multiple versions
Support	IBM (PMR)	OpenNTF (defect, discussion)
New functionality	New Upgrade (once 2 years?)	New Release (each 2 months)
Proven vs Experimental	Proven	Proven + Experimental

Winner

The overall 'winner' in this comparison is the distribution via an Update Site. A runtime installation offers a lot of benefits above a physical installation:

- Quick installation.
- Availability server.
- Replication option installation software.
- New functionality.

There are some drawbacks:

- A server needs to have the OSGI_HTTP_DYNAMIC_BUNDLES Notes.INI property which requires a restart of the server.
- Installed versions of the Upgrade Pack should be removed first.

References

XPages Extensibility API Developers Guide

http://www-10.lotus.com/ldd/ddwiki.nsf/dx/Master_Table_of_Contents_for_XPages_Extensibility_APIs_Developer_Guide

Installing and administering the XPages Extension Library

http://www-10.lotus.com/ldd/ddwiki.nsf/xpDocViewer.xsp?lookupName=Domino+Designer+XPages+Extension+Library#action=openDocument&res_title=Installing_and_administering_the_XPages_Extension_Library_ddxl853&content=pdcontent

XPages Extension Library Deployment in Domino 8.5.3

http://www-10.lotus.com/ldd/ddwiki.nsf/dx/XPages_Extension_Library_Deployment