

SQL Server 2014

Power BI

SharePoint 2013

K2

So What's New?

13 September 2015

- ▶ **Rolf Tesmer**
- ▶ SQL & BI Solution Architect



Agenda

What are we going to discuss today?

About Us

SQL Server 2014

Power BI

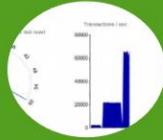
SharePoint & more!

K2

Wrap Up and Summary

SQL Server 2014 - What's New?

Top 5 New Features



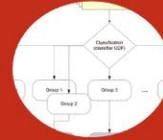
**In-Memory OLTP
(Hekaton)**



Updatable Column Store Indexes



**Buffer Pool Extension
(onto SSD)**



Resource Governor for IO

Extends RG functionality to govern IOPS
Allows MIN and MAX settings



Database Backup Encryption

Encryption:
AES 128, AES 192,
AES 256, Triple DES
Encryptor:
Certificate or
asymmetric Key

Feature Goal: Improve Performance & Scalability

Been around since
SQL Server 2012

- Columnstore indexes are not new to SQL Server...*a recap...*
 - ▶ A technology for storing, retrieving & managing data by using a **columnar** format
 - ▶ Work well for mostly **read-only queries** that perform analysis on **large data sets**
 - ▶ Is primarily a **memory optimised structure** (but can spool out to IO/Storage)
 - ▶ **~10x query performance gains** ...over traditional row-oriented storage
 - ▶ **~7x data compression** ...over the uncompressed data size

▶ So What's New for SQL 2014...?

- ▶ Clustered columnstore is available (previously only **non-clustered** was available)
 - ▶ Clustered is the **physical storage structure** for the table
 - ▶ Clustered option has **no key columns**, all columns **MUST** be included
 - ▶ Clustered **MUST** be only index on the table, cannot be combined with others
- ▶ Columnstore is **updateable** (previously only read-only available)

This is considered a **KEY**
benefit for SQL Server 2014

Extend SQL Buffer Pool Extension (to SSD)

Feature Goal: Improve Performance & Scalability

- The Buffer Pool is not new to SQL Server... *a recap...*
 - ▶ One of the main **memory consumers** in SQL Server
 - ▶ When data is **read** from storage it is **cached** in the Buffer Pool
 - ▶ SQL caches **Execution Plans** in the **Plan Cache** (part of the Buffer Pool)
 - ▶ The more **physical memory** = the larger the **Buffer Pool**
 - ▶ Typical approach to resolving I/O bottlenecks? **Add More RAM or More Spindles**
- ▶ So What's New for SQL 2014...?
 - ▶ Provides seamless **extension** of Buffer Pool to **nonvolatile RAM** (i.e. SSD)
 - ▶ Significantly improve I/O **throughput**, reduce I/O **latency**, increase **tps** throughput
 - ▶ Creates a **multilevel caching hierarchy** for the Buffer Pool...
 - ▶ **Level 1 (L1)** = DRAM
 - ▶ **Level 2 (L2)** = extension file on SSD
 - ▶ Only **clean pages** are written to the L2 cache -- helps maintain **data safety**

As set by SQL config
Max Server Memory

```
1 ALTER SERVER CONFIGURATION
2 SET BUFFER POOL EXTENSION ON
3 (
4     FILENAME = 'd:\ExtensionFile.BPE',
5     SIZE = 10 GB
6 )
7 GO
```

Pre-SQL Server 2012 Deployments

MAINSTREAM Support Ends - July 2014



Any SQL version
prior to SQL 2012
is out of
MAINSTREAM
support
from Jul 2014

- ▶ * So what does this all mean?
 - ▶ NO non-security hotfix support
 - ▶ ALL raised incidents are charged
 - ▶ NO warranty claims
 - ▶ NO design changes or feature requests
- ▶ * So what are my options?
 - A. Don't upgrade - and **RISK IT...**
 - B. Buy EXTENDED Support Package
 - C. Upgrade to latest / supported version
- ▶ * So what are my Next Steps (...talk to us!)
 1. Perform Health Check & Upgrade Review
 2. Plan upgrade roadmap / strategy
 3. Perform upgrade / migration - testing
 4. Perform upgrade / migration - cutover

Feature Demonstration

In-Memory OLTP (Hekaton) - Bwin online gaming



Agenda

What are we going to discuss today?

About Us

SQL Server 2014

Generally Available (GA)
1st April 2014

Power BI

Generally Available (GA)
April 2014

Power BI - What's New?

Top 5 New Features



Power BI
(Excel Professional)
vs.
(Excel Office 365)

Power Query
Power Pivot
Power View
Power Map



Power BI
(Office 365)
GA April 2014

Generally available
to Australian
Office 365
subscription
customers in Apr



Power BI
(Office 365)
BI Sites
Q&A
Data Experience



Power BI
(Office 365)
Mobile BI App

Windows 8.0/8.1
Windows RT
Apple (in progress)
Android...?



Power BI
(Office 365)
Data Centres

Power BI hosted
in Singapore
ONLY,
NO Australian DC

Power BI - Excel Professional vs. Office 365

What features are in which product

- Where will I find the features I want to use?

Product / Feature	Excel (Professional) On Prem	Office 365 (Subscription) Cloud	SharePoint (Enterprise) On Prem
Power Query	Yes	Yes Excel	No
Power Pivot	Yes	Yes Excel & SharePoint (250MB)	Yes (+ SQL Server Enterprise)
Power View	Yes	Yes Excel & SharePoint (incl HTML5)	Yes
Power Map	No	Yes Excel	No
BI Sites	No	Yes SharePoint & Power BI	Yes
Q&A	No	Yes SharePoint & Power BI	No
Data Management Gateway	No	Yes SharePoint & Power BI	No
Mobile BI App	No	Yes SharePoint & Power BI	No

Power BI for Office 365

Power BI Sites

- Power BI Sites

- ▶ The Power BI sites application *extends* your SharePoint Online site
- ▶ Provides a **robust & dynamic** location to share and find Excel workbooks
- ▶ Enables a **visual & interactive** view tailored specifically to Power BI content
- ▶ Essentially serves the **same purpose** as a BI Site on SharePoint Enterprise
- ▶ Is accessible via **client browser** or via **Power BI Mobile App**

The screenshot shows the Power BI for Office 365 SharePoint site. The top navigation bar includes 'Power BI content' and 'Power BI'. The main area is titled 'Featured reports' and displays two cards: 'Population Unicef' (a line chart showing population trends) and 'Olympics (Sample)' (a pie chart showing medal counts by country). Below this is a section for 'Featured questions' with three cards: 'WorldBankIndicators (Sample)' (a chart of indicators over time), 'Olympics (Sample)' (a chart of medal counts by athlete), and 'Athletes that won competing medals in 2004' (a photo of a swimmer). At the bottom, there is a 'Documents' section with a 'add' button.

The screenshot shows the Microsoft Power BI mobile app running on a Samsung tablet. The screen is filled with various Power BI reports. On the left, there is a bar chart titled 'SharkAttacks'. To the right are several other reports: 'Olympics' (a table of medal counts), 'Mobile by Discipline, Gender & Country' (a table of mobile usage data), 'Olympics' (another table of medal counts), and 'Olympics' (a chart of medal counts by country). The Power BI logo is visible at the bottom of the screen.

Feature Demonstration

Mobile Power BI



Power BI for Office 365

Power BI Data Management Experience

- Power BI Data Management Experience

- ▶ Provides cloud-based infrastructure to enable users to **discover**, **enrich**, and **share** Excel Power Query workbooks (data & queries) as shared data sources
- ▶ The shared data/content is **discoverable** using Power Query **online data search**
- ▶ Users can perform **BI analytics** on **shared data/queries** and include **other data**

The screenshot illustrates the Power BI Data Management Experience. On the left, the 'Manage Data' interface in Power BI for Office 365 is shown, featuring a list of 'my queries'. One query, 'Sample Employee Data', is selected and highlighted with a blue border. The interface includes a search bar and a table with columns for Ticker symbol, Company, SEC filings, GICS Sector, and GICS Sub Industry. On the right, an 'Online Search' results page for 'S&P 500 Component Stocks' is displayed. The results table lists various companies with their corresponding details. The 'Online Search' sidebar shows recent changes and a list of 562 results, with a specific entry for 'S&P 500 Component Stocks' highlighted in green.

Ticker symbol	Company	SEC filings	GICS Sector	GICS Sub Industry
MMM	3M Co.	reports	Industrials	Industrial Conglomer
ABT	Abbott Laboratories	reports	Health Care	Health Care Equipme
ABBV	AbbVie	reports	Health Care	Pharmaceuticals
ANF	Abercrombie & Fitch Company A	reports	Consumer Discretionary	Apparel, Accessories
ACE	ACE Limited	reports	Financials	Property & Casualty I
ACN	Accenture plc	reports	Information Technology	IT Consulting & Servi
ACT	Actavis Inc	reports	Health Care	Pharmaceuticals
ADBE	Adobe Systems Inc	reports	Information Technology	Application Software
ADT	ADT Corp	reports	Industrials	Diversified Commerci
AMD	Advanced Micro Devices	reports	Information Technology	Semiconductors
KSS	Kohl's Corp.	reports	Consumer Discretionary	General Merchandise
KRFT	Kraft Foods Group	reports	Consumer Staples	Packaged Foods & M
	Kroger Co.	reports	Consumer Discretionary	Consumer Discretionary

Power BI for Office 365

Power BI Q&A

- Power BI Q&A

- ▶ Use English natural language to find answers in your own data
- ▶ Presents your answers in the form of visualisations
- ▶ As you type a question Power BI decides the best visual to display your answer
- ▶ The visualisation changes dynamically as you modify the question

The screenshot shows three cards in the Power BI interface:

- Card 1: Table**

list the cities where the games have been held
Show Olympics and their host city that hosted them

Host City	Year	Host Country	Name
Amsterdam	1928	Netherlands	Amsterdam '28
Antwerp	1920	Belgium	Antwerp '20
Athens	1896	Greece	Athens 1896
Athens	2004	Greece	Athens '04
Atlanta	1996	United States	Atlanta '96
Barcelona	1992	Spain	Barcelona '92
Beijing	2008	China	Beijing '08
Berlin	1936	Germany	Berlin '36
Helsinki	1952	Finland	Helsinki '52
London	1908	United Kingdom	London 1908
London	1948	United Kingdom	London '48
London	2012	United Kingdom	London '12
Los Angeles	1932	United States	Los Angeles '32
Los Angeles	1984	United States	Los Angeles '84
Melbourne / Stockholm	1956	Australia	Melbourne / Stockholm
Mexico	1968	Mexico	Mexico '68
Montreal	1976	Canada	Montreal '76
Moscow	1980	Russia	Moscow '80
Munich	1972	Germany	Munich '72
Paris	1900	France	Paris 1900
Paris	1924	France	Paris '24
Rome	1960	Italy	Rome '60
Seoul	1988	South Korea	Seoul '88
St Louis	1904	United States	St Louis 1904
Stockholm	1912	Sweden	Stockholm 1912
- Card 2: Map**

number of gold medals by country in 2008
Show medal count and country, where year is in 2008

Medal Count by Country

Map showing the distribution of gold medals by country in 2008. The size of the circles represents the number of gold medals, with a color gradient from blue (fewer) to red (more). The map includes labels for continents and oceans.
- Card 3: Bar Chart**

Medal Count by sport for france and china as bar chart sorted by country
Show medal count; sport; and areas that medalled in sport where area is france or china as stacked bar chart

Medal Count by Sport, and Country/Region

Sport	France (Red)	China (Blue)	Total
Aquatics	10	110	120
Fencing	5	15	20
Cycling	10	10	20
Gymnastics	15	10	25
Athletics	10	10	20
Shooting	10	10	20
Weightlifting	10	10	20
Judo	10	10	20
Table Tennis	10	10	20
Badminton	10	10	20
Rowing	10	10	20
Canoë / Kayak	10	10	20
Archery	10	10	20
Equestrian	10	10	20
Sailing	10	10	20
Boxing	10	10	20
Wrestling	10	10	20
Tennis	10	10	20
Handball	10	10	20
Taekwondo	10	10	20
Croquet	10	10	20
Volleyball	10	10	20
Basketball	10	10	20
Football	10	10	20

Feature Demonstration

Power BI for Office 365 - Natural Language Q&A



Agenda

What are we going to discuss today?

About Us

SQL Server 2014

Generally Available (GA)
1st April 2014

SharePoint & more

Power BI

Generally Available (GA)
April 2014

SharePoint & more - What's New?

Technology Updates



SP1



Social



Yammer



OneDrive

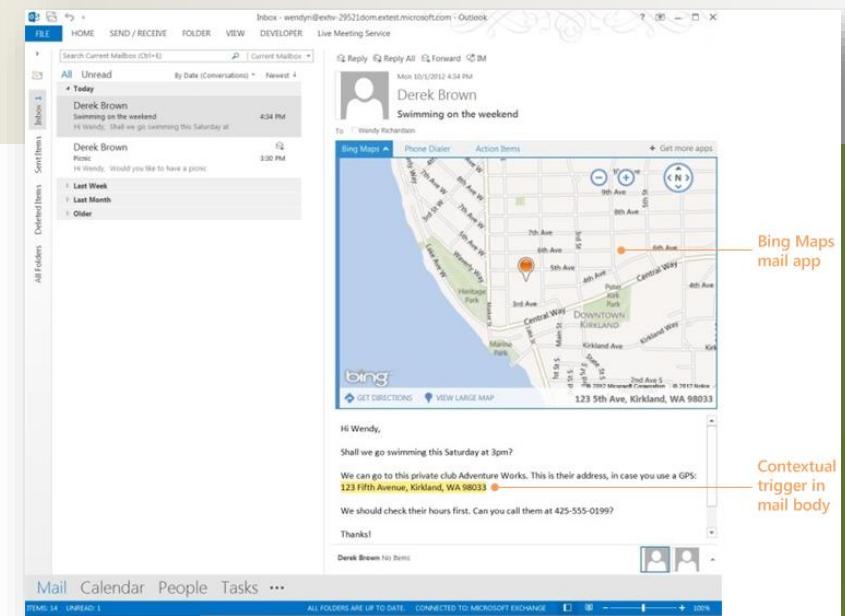


Forms



SharePoint & more Service Pack 1

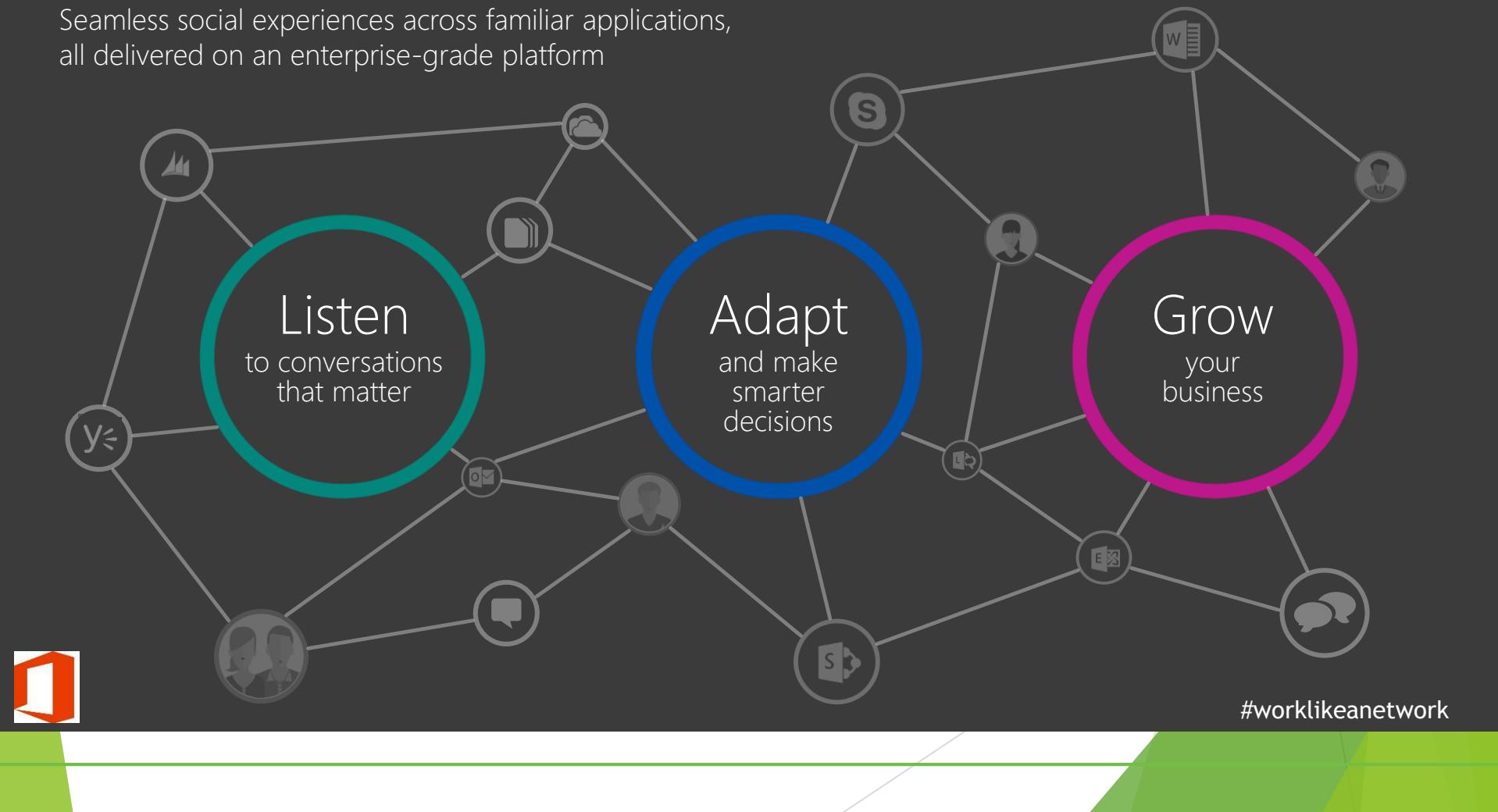
- Compatibility fixes for Windows 8.1 and Internet Explorer 11.
- Modern Hardware: high DPI devices and the precision touchpad
- New Apps for Office updates & developer API's
- Seamless hybrid connection to OneDrive for Business in Office 365.
- Support for Yammer as chosen social network (easier to replace default Newsfeed)
- Support for JSON Light in OData.



SharePoint & more

Social - work like a network

Seamless social experiences across familiar applications,
all delivered on an enterprise-grade platform



SharePoint & more

Social - new experiences



Inline Social



Groups



Office Graph



Microsoft

Extends social collaboration to Office 365, Dynamics, and other apps, services, and line-of-business systems.



Enables you to participate in social conversations from the tools of your choice

A screenshot of a Microsoft Word document. The main content is a video thumbnail for 'EE TV ENERGY EFFICIENT TV MARKETING CAMPAIGN' by Garth Fort, dated March 2014. To the right of the video, there is a 'Yammer Conversations' sidebar. The sidebar shows a message from Garth Fort to 'All Company, Katie Jordan, and Bonnie Kaealey' asking for feedback by Thursday. Katie Jordan has liked the message. Below this, there is a message from Garth Fort to Anne Wallace asking for feedback by Friday. Anne Wallace has also liked the message. The sidebar also includes a 'Write a reply...' text input field.

A screenshot of a Sales Activity Social Dashboard. The main feature is a funnel chart titled 'Sales Pipeline' showing 'My Open Opportunities'. The funnel is divided into three segments: blue (top), orange (middle), and purple (bottom). The total value for the funnel is \$7,696,041.00. To the right of the funnel, there is a 'Yammer SYSTEM POSTS' sidebar. It shows a post from Jill Frank to Sales with the message 'Here you go Terry Adams.' and a file named 'Sales Presentations2'. Below this, there is a post from Terry Adams to RAD asking if the 3D printer specs have been updated. The sidebar also includes a 'Yammer' link and a 'Terry Adams' profile picture.

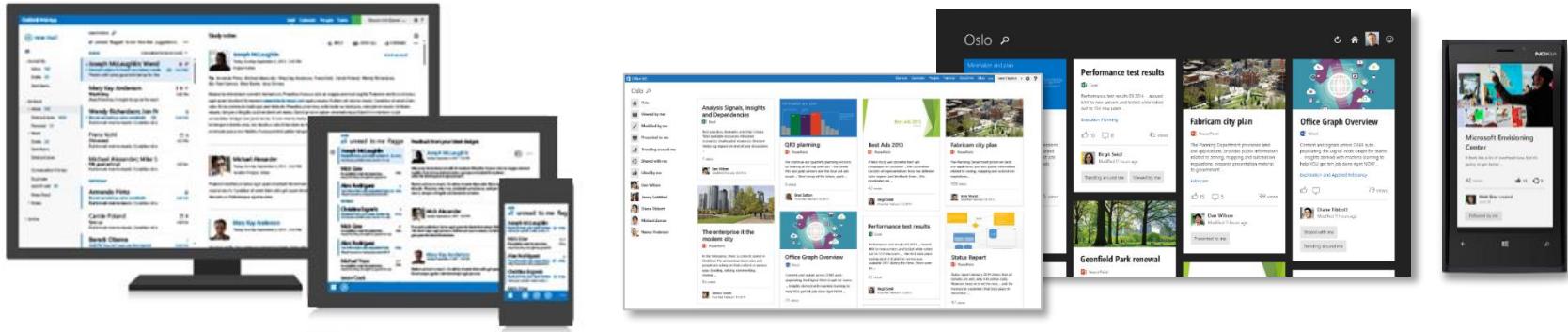
Office Graph



Content and signals across Office 365 auto-populating the **Office Graph** for teams.



Insights derived with machine learning to help **YOU** get the job done right **NOW**



← Dan Wilson ↗

SharePoint & more

Yammer

Unifies People, Profiles, Conversations, Emails, Calendars, and Files across Office 365 and beyond.



Provides you with a rich and seamless collaboration experience across applications

The image consists of three side-by-side screenshots from Microsoft Teams and Outlook.

- Left Screenshot (Microsoft Teams):** Shows a group chat for "Product Launch" with 11 members. A message from "Anne Wallace" is highlighted, reading: "Anne Wallace Katie Jordan we have the greenlight from the leadership...". Below the message, a "copy all" button is visible.
- Middle Screenshot (Microsoft Teams):** Shows a group conversation with 11 members. A message from "Garth Fort" is highlighted, reading: "Garth Fort thanks for the quick response. I will coordinate with the marketing team to make sure we have a launch campaign and an ad campaign. We'll keep you posted on progress." Below the message, a "copy all" button is visible.
- Right Screenshot (Outlook):** Shows a calendar view for "February 23 - March 1, 2014". A task titled "Product Launch" is listed for Monday, February 24, with a duration of 1 hour. The task is assigned to "Anne Wallace" and has a status of "Not Started".

SharePoint & more

SharePoint Social or Yammer?

Go Yammer

- Immediate adoption
- Rapid innovation
- Connect everyone

SharePoint on-premises and Yammer

- Service Pack 1 & Yammer app for SharePoint

SharePoint Social futures

- Committed to another SharePoint on-premises release
- Social capabilities will be maintained
- Don't plan on adding new features

Social's future: Yammer and Office 365

- Continued hybrid improvements



OneDrive for Business

All my files in *one* place

25GB Storage
Anywhere Access
Sync client

Get work done.
Together.

Office client integration
Co-authoring
Easy sharing

A trusted enterprise-
grade service

Security
Management
Admin Control

SharePoint & more

OneDrive for Business

	OneDrive for Business				Office		Web	
	Win32	Mac *	iOS	Modern	Office Mobile	Office Desktop	mobile	desktop
My Docs	●	●	●	●	●	●	●	●
Team Sites	●	-	-	-	●	●	-	●
Recents	-	-	●	●	●	●	●	●
Shared with me	-	-	-	-	-	-	●	●
Offline	●	●	●	-	●	●	-	-
Sync & merge	●	●	-	-	●	●	-	-
Share	●	-	●	●	●	●	●	●
Move	●	●	-	-	-	-	-	-
Rename	●	●	●	●	-	-	-	-
Upload / Save	●	●	●	●	●	●	-	●
Camera Upload	-	-	-	-	-	-	-	-
Edit	-	-	●	●	●	●	-	●

- fully implemented
- partially implemented
- not implemented OR n/a

* planned 2014

SharePoint & more

Forms

- InfoPath - **no further investment**, support for next **10 years**.
- **No replacement technology yet**, so **no migration strategy**.

FORM TYPES	USER SCENARIOS		TIMEFRAME	
Excel Surveys 	Design Excel Online—Excel Surveys	Completion Web	Online Continuously shipping	On-premises Included with Office 2013
List Forms 	Design “FoSL”—Forms on SharePoint Lists	Completion SharePoint	Online Summer 2014–October 2015	On-premises SharePoint vNext
Structured Documents 	Word		Plans at the end of 2014	
App Forms 	Design Access	Completion SharePoint	Online Continuously shipping	On-premises Included with Office 2013

SharePoint & more

Forms Options



Agenda

What are we going to discuss today?

About Us

SQL Server 2014

Generally Available (GA)
1st April 2014

SharePoint & more

Power BI

K2

K2 - What's New?

Top Updates



K2 for
SharePoint



Forms



Community



Mobile



K2

K2 for SharePoint

- K2 for SharePoint 2013 released on **26 March 2014**

- K2 featured in several keynotes at SharePoint Conference 2014**

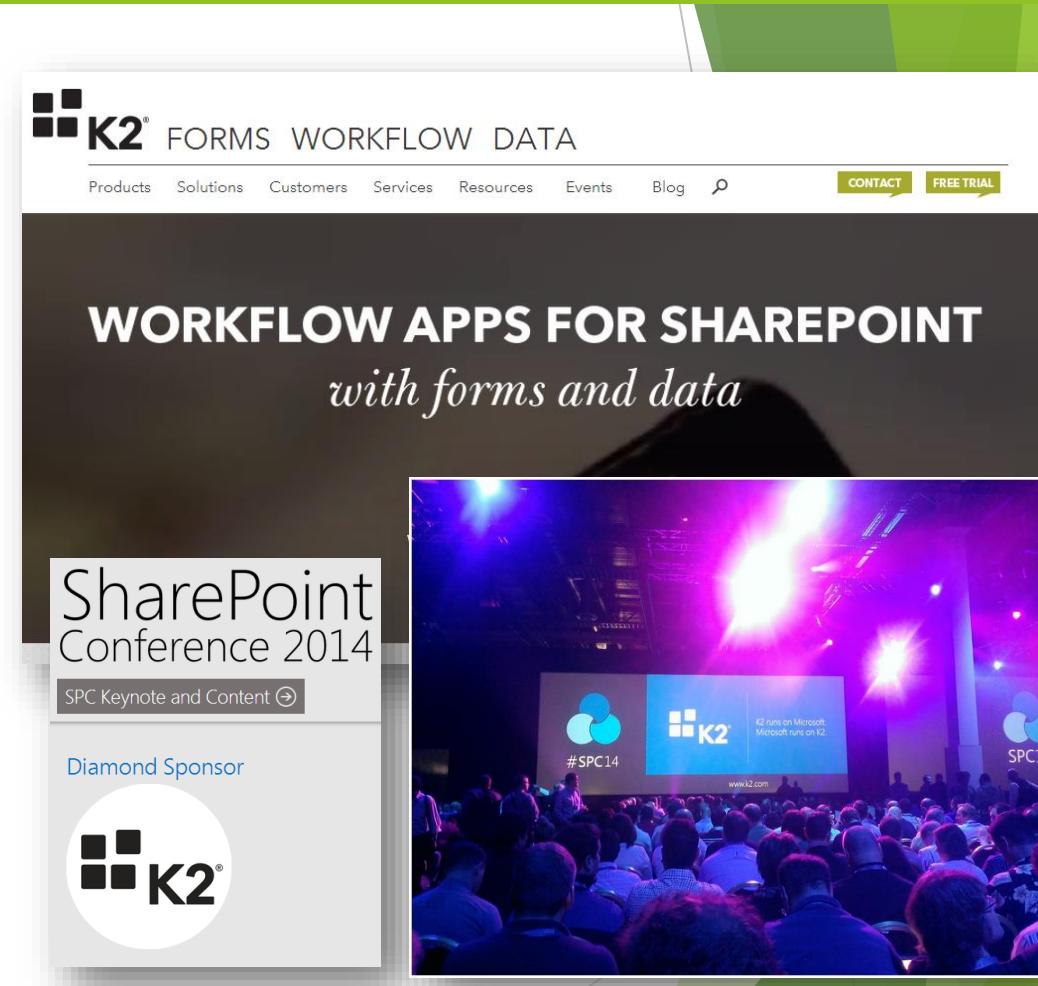
- “K2 runs on Microsoft, Microsoft runs on K2”**

- K2 was the **Diamond Sponsor** of SharePoint Conference 2014

- A lot of excitement** around this significant release

- Supports full spectrum of user needs** from simple to complex

- Feature parity** across SharePoint Online and On Premise and supports **hybrid infrastructures**



The image is a composite of two screenshots. The left screenshot shows the K2 website homepage with the header 'K2 FORMS WORKFLOW DATA' and a navigation bar with links to Products, Solutions, Customers, Services, Resources, Events, Blog, and a search icon. The main title 'WORKFLOW APPS FOR SHAREPOINT' is displayed with the subtitle 'with forms and data'. The right screenshot shows a SharePoint Conference 2014 stage with a large audience. A screen on stage displays the K2 logo and the text '#SPC14' and 'K2 runs on Microsoft. Microsoft runs on K2'. The stage is illuminated with purple and white lights.

Additional Information:

<http://www.k2.com/sharepoint>

K2

K2 smartforms

- Microsoft formally announced that they are **no longer investing in InfoPath**
- Microsoft Future of Forms for SharePoint session at SPC 2014 did not reveal any significant replacement
- K2 smartforms** ideally placed to provide forms both inside and outside of SharePoint
- A lot of **excitement** around K2 smartforms at SPC 2014



Office Blogs

Narrow By: + What products do you use? + Where do you use Office? + What do you want to see?

Follow us: [Facebook](#) [Twitter](#) [LinkedIn](#) [Subscribe all](#) [Sign in](#)

← Back  InfoPath

Update on InfoPath and SharePoint Forms

by Office Team, on January 31, 2014 | 4 Comments | 396 Shares

Customers have been asking us about the future of InfoPath and SharePoint forms, and today we're ready to share some information on the next generation of Office forms.

Industry trends and feedback from our customers and partners make it clear that today's businesses demand an intelligent, integrated forms experience that spans devices. We are looking to make investments that allow you to easily design, deploy, and use intelligent, integrated forms across

Additional Information:
<http://www.k2.com/blog>
<http://www.k2.com/platform/forms>

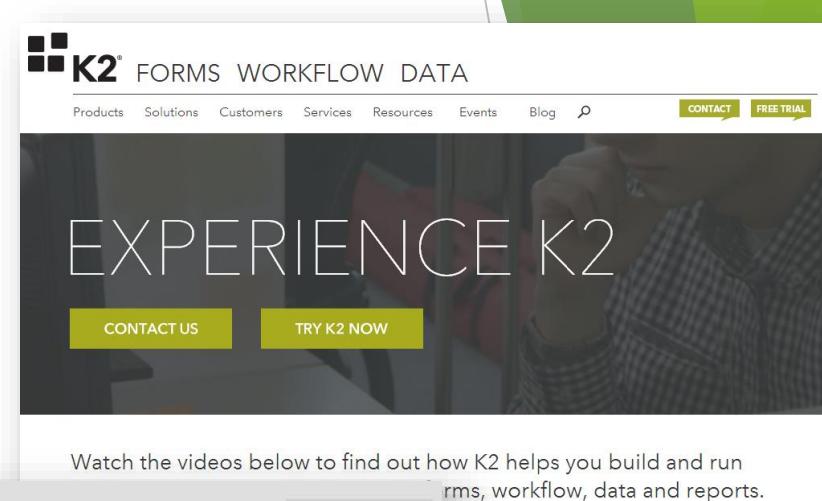
K2

Community

- Provides the ability to get your hands on K2 and play for yourself via “Try Now”

- View videos on various parts of the K2 platform:

- Designing Forms
- Rules in Forms
- Data in Forms
- Using Forms
- Designing Workflows
- Rules in Workflows
- Task Routing
- Managing Workflows
- Task Management
- Designing Data Access
- OOB Data Options
- Designing Dashboards
- Notifications
- SharePoint Data
- SharePoint Apps



Additional Information:

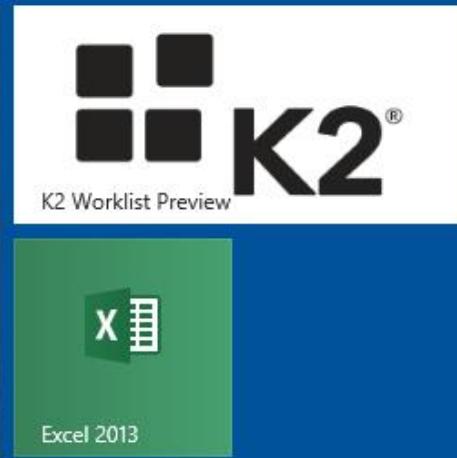
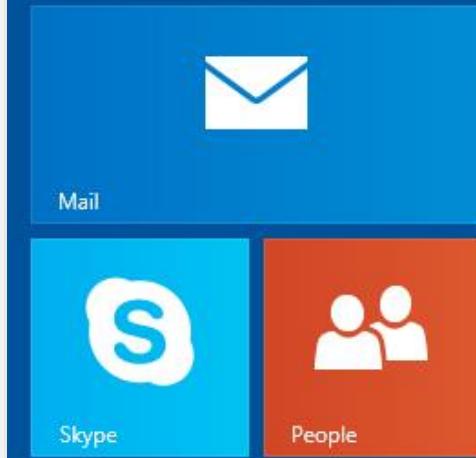
<http://www.k2.com/experience-k2>

K2

Mobile



Start



Agenda

What are we going to discuss today?

About Us

SQL Server 2014

Generally Available (GA)
1st April 2014

SharePoint & more

Power BI

K2

Wrap Up and Summary

Agenda

What did we cover today?

- ✓ **SQL Server 2014 - Top 5 Features**
- ✓ **Power BI - Top 5 Features**
- ✓ **SharePoint & more - Social, Yammer & Forms!**
- ✓ **K2 - Top Announcements**

Appendix and References

Appendix

References

Appendix - References

- SQL Server 6.0, 6.5, 7.0, 2000, 2005, 2008, 2008 R2, 2012 and 2014 Books Online
Microsoft
- Power BI (Power Map) available only to Office 365 customers from 30 May 2014
<http://www.office.microsoft.com/en-us/excel-help/power-map-for-excel-HA104204034.aspx>
- Power BI App
<http://office.microsoft.com/en-us/office365-sharepoint-online-enterprise-help/faq-about-the-power-bi-app-HA104095891.aspx?CTT=5&origin=HA104095846>
- SQL 2014 Hekaton
<http://channel9.msdn.com/Events/TechEd/Australia/2013/DBI226>
<http://www.mssqltips.com/sqlservertip/3106/sql-server-2014-inmemory-oltp-architecture-and-data-storage/>
- Microsoft Support Lifecycle FAQ
<http://support.microsoft.com/gp/lifepolicy>