Migration of Data and Applications in the Cloud

Arian Kaçiu and Edmond Jajaga

Arian Kaçiu
MSc
arian.kaciu @gmail.com
University for Business and Technology
Kosovo

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Short Resume - Arian Kaçiu

- Finished master studies in Computer Science and Engineering in UBT College in Kosovo.

- Has more than 11 years of experience in IT and 6 years working in cloud technologies, especially in Microsoft 365. Microsoft certified in SharePoint and Office 365.

- Has managed lots of migrations projects, mainly from SharePoint on-premises into SharePoint Online.

- Actually works managing, developing and supporting SharePoint / Office 365 applications in McKesson Europe in Stuttgart, Germany

Presentation Outline

- Introduction
- Research questions
- Why migrate to the latest version of SP / SPO?
- Steps for proper migration
- Case studies
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  - Migrate SP 2010 to SPO
  - Migrate SP 2013 to SPO
- Discussions
- Conclusions

What is SharePoint (SP)?

- **SharePoint** is a web-based collaborative platform that integrates with Microsoft Office [1]

- SharePoint can be deployed and managed on-Premises (SP Sever 2019 is the latest version) or can be used Online (SPO) with an Office 365 Enterprise subscription. It's also available on hybrid scenarios.

- Both platforms (SP on-Premises and Online) include out of the box a bunch of collaboration, communication, document management and business processes modelling features; and also they include the building blocks for many kinds of Modern Workplace solutions through a set of rich application program interfaces (API) and extensibility mechanisms [2]

- SharePoint can be used as a secure place to store, organize, share, and access information from any device [3]

- Microsoft states that more than 200,000 organizations and 190 million people have SharePoint for intranets, team sites and content management [4]

Research questions

- Why should we upgrade to the new version of SharePoint?

- What are the options to migrate from one version to another one in SharePoint?

- What are the best practices while migrating SharePoint?

- Which are the lessons learned after doing the migration from SharePoint 2013 to SharePoint Online?

Why migrate to the latest version of SP / SPO? (1)

- SharePoint migration is the process of moving the content from the existing file share or SharePoint to another existing SharePoint environment or eventually to a newer version

- Support Cycle changes when Microsoft releases a new version

- Features may be deprecated, and additions do occur with new versions

- Sequential upgradation is always beneficial - Two options to upgrade in SP on-Premises:
  - Move through each version as you upgrade
  - Use third-party migration tool to upgrade your environment

- Major differences between SP Server and SPO / Office 365

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Why migrate to the latest version of SP / SPO? (2)

- SharePoint Product Lifecycle Support

Products Released	Lifecycle Start Date	Mainstream Support End Date	Extended Support End Date
SP Server 2007 SP3	25/10/2011	09/10/2012	10/10/2017
SP Server 2010 SP2	23/07/2013	13/10/2015	13/10/2020
SP Server 2013 SP1	25/02/2014	10/04/2018	11/04/2023
SP Server 2016	01/05/2016	13/07/2021	14/07/2026
SP Server 2019	22/10/2018	09/01/2024	14/07/2026

Why migrate to the latest version of SP / SPO? (3)

- Some of the distinguished features of SPO are:

  - SharePoint farms are hosted in Microsoft's cloud infrastructure

  - Microsoft applies security patches and pushes platform updates

  - Office 365 has committed to 99.9% availability in their service level agreement (SLA)

  - The cloud version receives more new features

  - SPO is licensed on a per-user basis and can be purchased as a standalone service or as part of an Office 365 plan

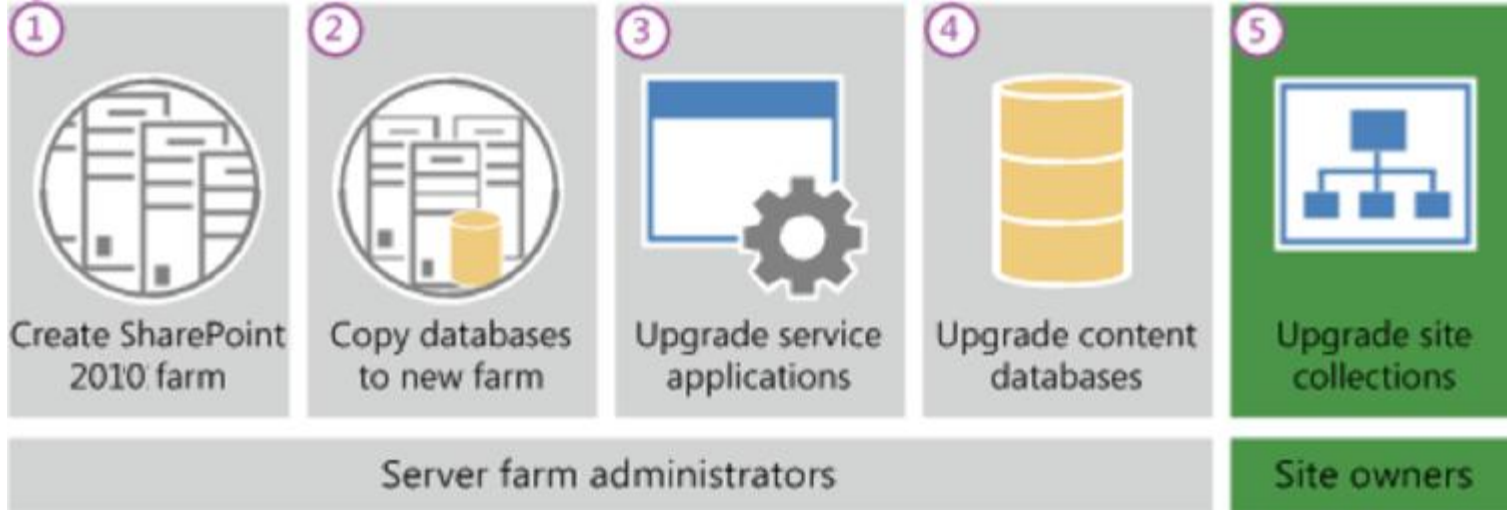8

Steps for proper migration

1. Make a detailed inventory of the environment

2. Clean up the old environment

3. Prepare the destination environment

4. Communicate with users

5. Start the migration

6. Post migration

Case studies

- As a case study, we have used five SharePoint migration projects with which we had experience in the past.

- Two projects are completed in Cacttus Company in Kosovo

- Three other projects are finished in McKesson Europe AG in Stuttgart for three McKesson Business Units: McKesson UK, Admenta – Italy, and Lloydsapotek – Sweden.

- In the context of versions, one of them is from SharePoint Server 2007 to SharePoint Server 2010 and the other four from SharePoint on-premises to SharePoint Online

Upgrade / Migrate SP 2007 to SP 2010

- With the approval from the content owner delete the unused site collections (SC) and move some of the data from different SC to a new one named Archive
- Run the Pre-Upgrade Check on the SP 2007 Server SP2
- Back Up SharePoint 2007 Content Database

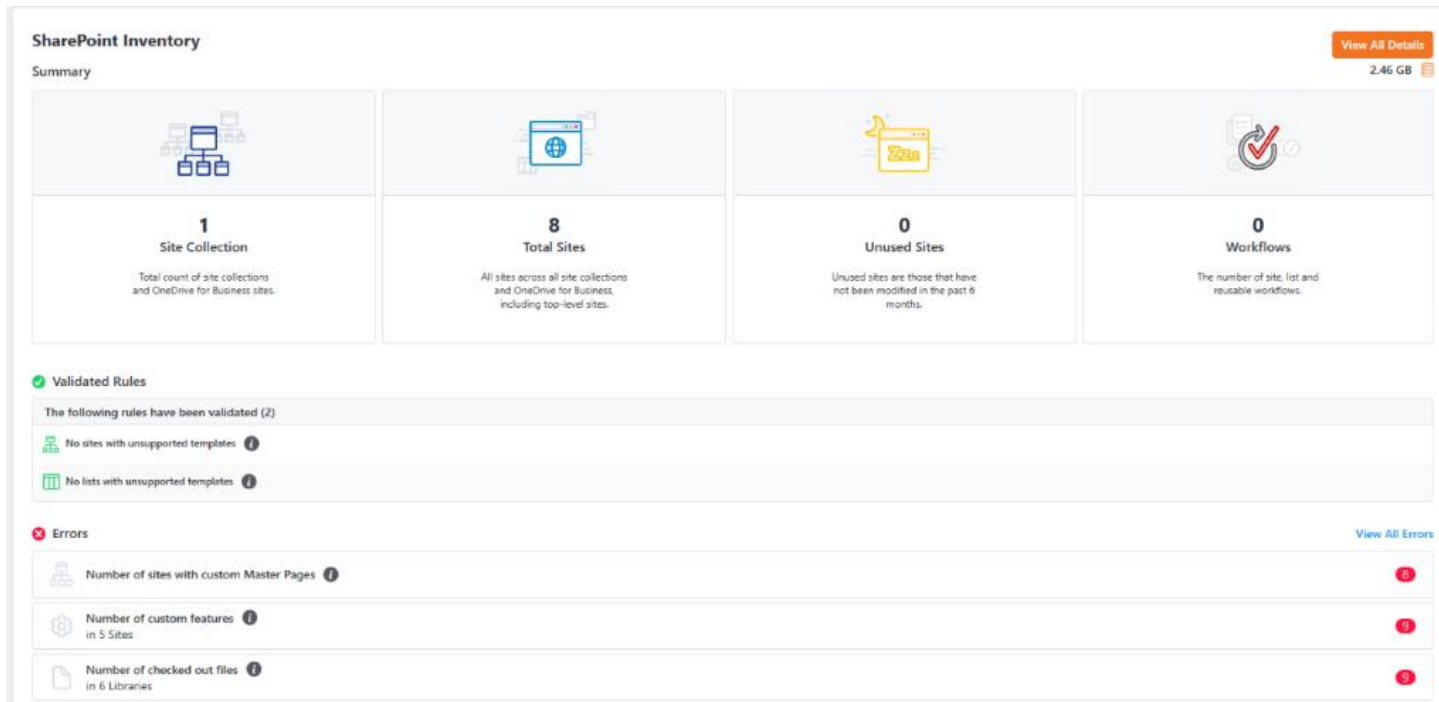| ① Create SharePoint 2010 farm	② Copy databases to new farm	③ Upgrade service applications	④ Upgrade content databases	⑤ Upgrade site collections
Server farm administrators				Site owners

Migrate SP 2010 to SPO

- Create the similar structure of the Intranet including Site Collections (SC)

- Sites, lists / libraries were saved as templates and moved over to SPO to the appropriate SC / sites

- Some documents were migrated manually using the explorer view

- InfoPath 2010 forms were moved / published to SPO by first changing the connection strings in the form

- SP Workflows have been migrated through SP Designer
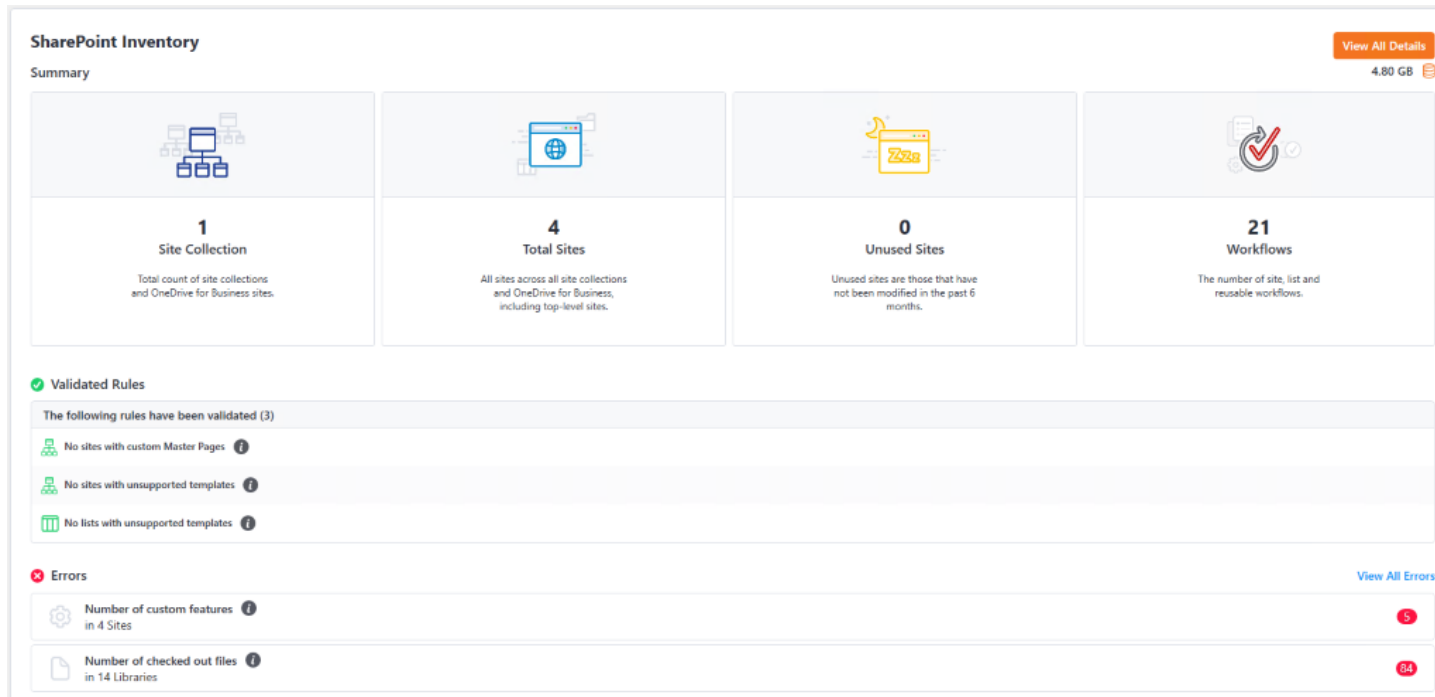
Migrate SP 2013 to SPO (1) Swedish Intranet

- Mainly used to share news and documents with pharmacies
- One Site Collection with eight sites
- Total size was 2.46 GB

Migrate SP 2013 to SPO (2) Italian Intranet

- Mainly used to share news and documents with pharmacies
- One Site Collection with four sites and 21 workflows
- Total size was 4.80 GB

Migrate SP 2013 to SPO (3) Swedish / Italian Intranet

- Inform content owners to clean up old / unused data by sharing different reports

- First initial test migration with Sharegate. Fix some initial issues

- Redesign / recreate of classic pages into modern ones

- Implementing new apps and recreation of navigation link

- Migration of workflows - Rebuild the not supported actions

- Old Intranet set to Read Only and add visual banner

- Incremental migration and post migration checks
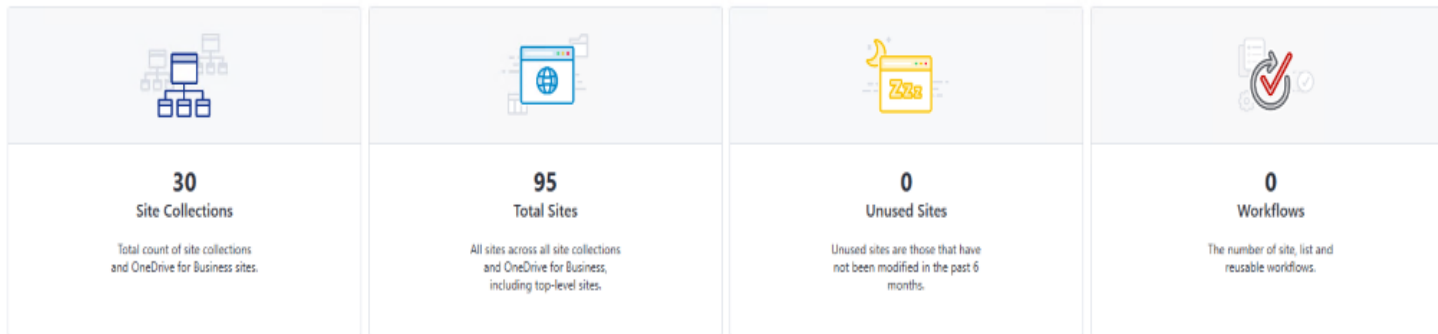
Migrate SP 2013 to SPO (4) UK Intranet

- Used for news and as document management for employees
- 30 Site Collections with 95 sites.
- Total size was 65.40 GB

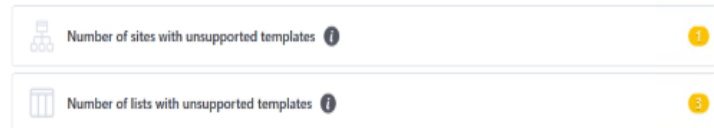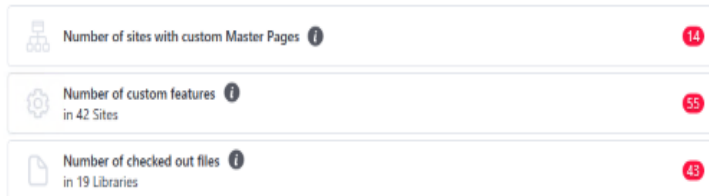SharePoint analysis on UK Intranet

Summary | View All Details | 65.40 GB

30 Site Collections	**95** Total Sites	**0** Unused Sites	**0** Workflows
Total count of site collections and OneDrive for Business sites.	All sites across all site collections and OneDrive for Business, including top-level sites.	Unused sites are those that have not been modified in the past 6 months.	The number of site, list and reusable workflows.

Errors — View All Errors | **Warnings** — View All Warnings

Errors		Warnings	
Number of sites with custom Master Pages	14	Number of sites with unsupported templates	1
Number of custom features in 42 Sites	55	Number of lists with unsupported templates	3
Number of checked out files in 19 Libraries	43		

Migrate SP 2013 to SPO (5) UK Intranet

- Inform the user that the migration will start and expectations

- An Excel file with the title and URL of each SC was sent to SC admins and owners of these site for review the content

- First migration of the root SC with Sharegate, recreation of all this years' news from blogs into news pages.

- Migration plan page to inform users about timescales

- Migration of SCs based on plan, set to Read Only and add visual banner

- Final communication and post migration checks

Migrate SP 2013 to SPO (6) UK Intranet

- Use ModernizingPages PowerShell script to recreate pages

$user = ak30369@ubt-uni.net
1. $cred = Get-Credential –UserName $user
2. Connect-PnPOnline –Url
   https://ubt.sharepoint.com/sites/hr/ -Credentials $cred

3. $pages = Get-PnPListItem –List sitepages
4. foreach ($page in $pages)
5. { Write-Host "Modernizing"
   $page.FieldValues["FileLeafRef"] "..."

6. $modernPage = ConvertToPnPClientSidePage -Identity
   $page.FieldValues["FileLeafRef"] - Overwrite Write-Host
   "Done" -ForegroundColor Green}

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Discussions (1)

Five pitfalls to avoid while upgrading/migrating (17)

- SP Upgrade is only the responsibility of the IT team
  - All stakeholders should be consulted about SP roadmap in organization.
  - All custom solutions should be included when planning an upgrade.

- To do a migration, all we need is a source and a destination environment
  - Current environment must be assessed and analyse the costs and risks associated with migrating to the new environment.
  - Base infrastructure must be mapped and upgraded, if necessary.
  - The right tools need to be identified for the SharePoint migration.

- Ignoring compatibility requirements of third-party applications integration
  - If needed update the tools to a version that is more compatible with the destination environment

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Discussions (2)

- Scatter information
  - It is critical for a SharePoint migration team to map all the information with the relevant metadata.
  - The right set of documents, and their versions to be transferred.

- No documentation of current legacy system
  - Documentation as an overview of the architectural and system considerations, with web parts & external data sources.
  - The document should provide also details of all previous migrations or SharePoint upgrade experiences, along with the type of approach used to migrate

Discussions (3)

- Comparing migration method of the Italian and Swedish Intranet with the UK, we have found that the migration pattern we followed in the UK case proved to be the best one.
  - Giving the users direct access to the new Intranet (SPO) at the initial stage of the migration project resulted in more engagement and adoption by the users.

  - Addressing issues appearing in early stages resulted in a smoother migration process, which to the best of our knowledge has not been considered by other related works.

Discussions (4)

- If the total size is way bigger than the largest size of our case studies (65.4GB) or much more workflows or sites are to be migrated, then it will require more time, planning and efforts.

- Also, we have to keep in mind that the migration performance can be affected by network infrastructure, file size, migration time, and throttling.

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Conclusion (1)

- The migration of data and applications on the cloud outlines one of the most important processes after each application version publishing.

- Content owners should be informed and be given a date when to finish the clean-up of old / unused data; if they don't do it properly or at all, then at least we should request from them to clean-up workflows, pages and solutions which are not used, in order to save time, efforts and costs while recreating.

- The findings in this paper show that in order to have a smoother migration and better users' adoption one should engage users with the new environment as earlier as possible during the migration

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Conclusion (2)

- An insight into user experience with the migration process would be understood by conducting a questionnaire, which is planned as per future works.

- Other future works include recommendations regarding the custom code solutions and modernization of other customizations and applications to get them ready for migration to SPO.

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Thank you for your patience!

Contacts

Arian Kaçiu, ak30369@ubt-uni.net

Questions