

Best Practices for Migrating SSRS to Power BI

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Operational reports continue to play a crucial role in organizations, and with Power BI Paginated Reports, this is the perfect time to migrate away from legacy SQL Server Reporting Services (SSRS). We recently led a project to migrate a heavily used, on-premises SSRS report site to Power BI's online service using a premium capacity license model. In this blog, I will share the best practices and lessons learned along the way. But first, let us explore the differences between SSRS and Power BI and understand the benefits of migration.

Understanding the Differences Between SSRS and Power BI

Before migrating, it is important to understand the fundamental differences between SSRS and Power BI. SSRS is a traditional reporting tool best suited for pixel-perfect, static reports. In contrast, Power BI offers more flexibility, allowing for advanced visualizations and interactive features. While Power BI Paginated Reports are the closest equivalent to SSRS, each has distinct strengths. Assess whether your SSRS reports can benefit from the enhanced interactivity and visualization options in Power BI.

Benefits of Migrating from SSRS to Power BI

- 1 Reduced Infrastructure Costs**

Organization can save on SQL server license costs, infrastructure costs for running the server machine, and labor costs on maintenance tasks to keep the SSRS site running smoothly.
- 2 Unified Reporting Platform**

Power BI provides both operational and analytical reports in a single platform and reduces the end user's effort to provide multiple reports and data sources into one cohesive platform.
- 3 Enhanced User Experience**

Power BI's modern, intuitive interface offers interactive features, delivering a more engaging reporting experience compared to SSRS.

4 Enhanced Performance, Scalability and Integration with Modern Data Platforms

Power BI's cloud-native architecture, along with its seamless integration with platforms like Azure, Synapse, and Databricks, ensures better performance and scalability. It efficiently supports large datasets while enhancing data governance and enabling advanced analytics. Power BI, as a key part of Microsoft Fabric, can also seamlessly integrate with other Fabric components such as Data Engineering, Data Factory, Data Science, Data Warehouse, and Real-Time Intelligence, future-proofing your reports and providing a robust, flexible analytics ecosystem.

5 Improved Governance and Security

Power BI offers robust security features, including role-based access, workspace level security, data encryption, and Azure Active Directory integration, ensuring superior governance.

6 Automation with Power Automate

Power Automate enables automated routine report distribution workflows, enhancing capabilities beyond SSRS's data-driven subscriptions.

Best Practices for Migrating from SSRS to Power BI: Lessons from the Field

1. Analyze Existing Reports and Assess Feasibility

Start by analyzing the SSRS reports you intend to migrate. Not all reports need to be migrated. Some might be redundant or better suited for Power BI's interactive dashboards. Prioritize high-value reports to optimize your migration timeline.

Key takeaway: Identify underutilized reports and archive them to reduce your workload.

2. Optimize Data Sources

Before migration, optimize your data sources. SSRS often relies on SQL Server, but Power BI can work with a broader range of data sources, including Azure and Synapse.

Key takeaway: Migrate SQL queries to be compatible with Synapse or other cloud solutions for better performance and scalability.

3. Prepare for Performance Tuning

Power BI Paginated Reports may need performance tuning to match the expectations of SSRS users. Focus on DAX queries, data models, and report load times. Use Power BI's Performance Analyzer to identify potential bottlenecks.

Key takeaway: Test performance with real-world data loads to ensure reports meet user expectations for speed and interactivity.

4. Maintain Pixel-Perfect Layouts

One of the key reasons for migrating to Power BI Paginated Reports is to preserve the pixel-perfect layouts that are critical for business processes.

Key takeaway: Pay close attention to page sizing, margins, and alignment to ensure your reports retain their expected appearance.

5. Leverage Power BI's Advanced Visualization Capabilities

While SSRS is focused on static reports, Power BI's strength lies in its dynamic, interactive visualizations. Consider adding visual elements like charts, graphs, or drill-through actions.

Key takeaway: If interactivity can provide deeper insights, take full advantage of Power BI's features.

6. Governance and Security

Security is critical when migrating sensitive reports. Power BI's integration with Azure Active Directory offers role-based access controls and data encryption.

Key takeaway: Ensure your Power BI workspace and app permissions are configured to match or exceed your organization's governance policies.

7. Testing and Validation

Thorough testing is vital for a successful migration. After migrating, run parallel reports in both SSRS and Power BI to validate accuracy, formatting, and functionality.

Key takeaway: Allocate sufficient time for testing across different devices and user environments to ensure consistent performance.

8. End-User Training

Power BI has a different interface and feature set than SSRS. Training your end users on the new platform is key to adoption.

Key takeaway: Conduct training sessions to introduce users to Power BI's capabilities, including paginated reports and interactive dashboards.

9. Monitor and Iterate

After migration, continuously monitor report performance and gather user feedback. Power BI's ability to update frequently allows you to make iterative improvements based on this feedback.

Key takeaway: Create a feedback loop with end users and stakeholders to ensure continuous improvement of your Power BI reports.

Issues Spotlight

While migrating SSRS to Power BI Paginated Reports, keep an eye out for common issues:

- Images in .rdl files may need to be embedded manually.
- Time zone adjustments may be required after migration to Power BI.
- Reports might time out after 10 minutes of inactivity in Power BI; refresh the browser to resolve this.
- Text search in paginated reports is limited to the currently rendered page in Power BI.
- Custom fonts in SSRS may not be fully supported in Power BI.
- SSRS data-driven report subscriptions need to be configured through Power Automate.
- File share report subscriptions should also be managed via Power Automate

Migrating from SSRS to Power BI Paginated Reports can be challenging, but with careful planning and execution, the transition can unlock immense value for your organization. Following these best practices will help ensure a smooth migration process and empower your team with the full capabilities of Power BI.

About Blue Altair

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About the Author

Nidhi Singh is a Data Management Consultant and BI Developer with Blue Altair. With over 5 years of experience in Power BI and Tableau, she has helped organizations across industries to modernize their reporting systems by migrating SSRS reports to Power BI Paginated Reports, driving enhanced business insights through data visualization.

