

# APEX – PDF GENERATION USING PLJRXML2PDF & JASPER REPORTS

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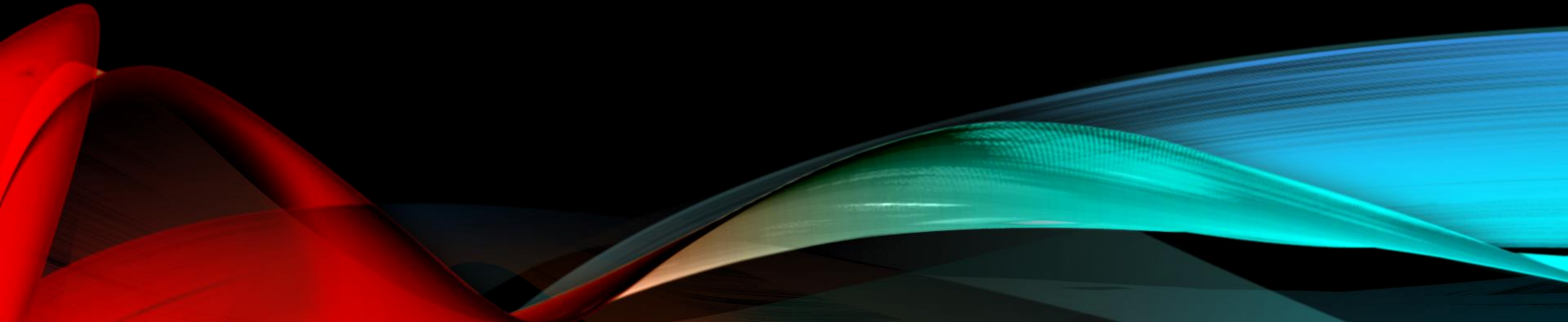


# AGENDA

- Introduction
- Problem Statement
- Possible Solutions
- Exploring pljrxml2pdf as a solution
- Demo
- Q&A

# INTRODUCTION

- I am an IT Professional that has had a number of positions in the Oil&Gas industry as DBA, Solution Architect, EA, Development Team Lead, ERP Architect, etc.
- I have used APEX since it was called HTMLDB but always for prototyping only
- I am restarting my career doing APEX development...





# PROBLEM STATEMENT

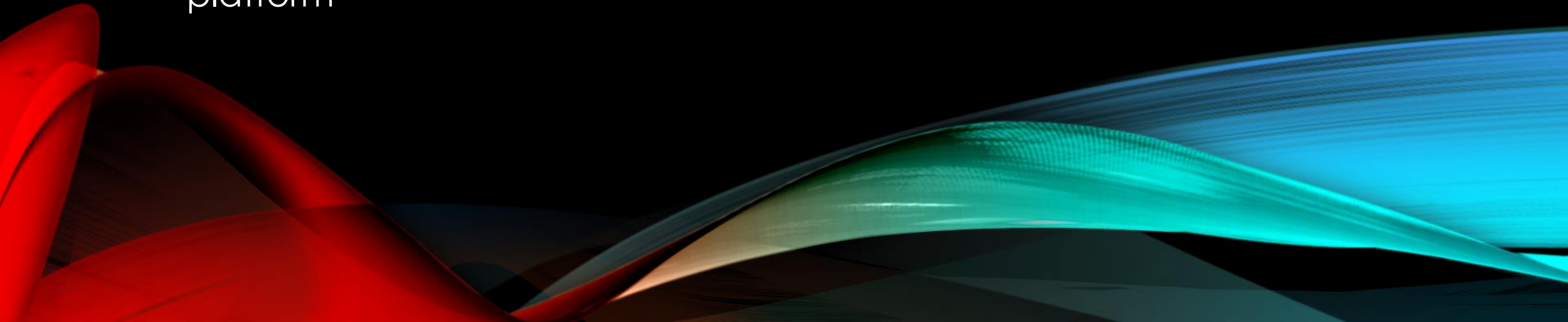
prob·lem  
/'prɒbləm/  
noun

**1.** A matter or situation regarded as unwelcome or harmful and needing to be dealt with and overcome.

**synonyms:** difficulty, trouble, worry, complication, *difficult situation*; snag, hitch, drawback, stumbling block, obstacle, hurdle, hiccup, setback;

# PROBLEM STATEMENT

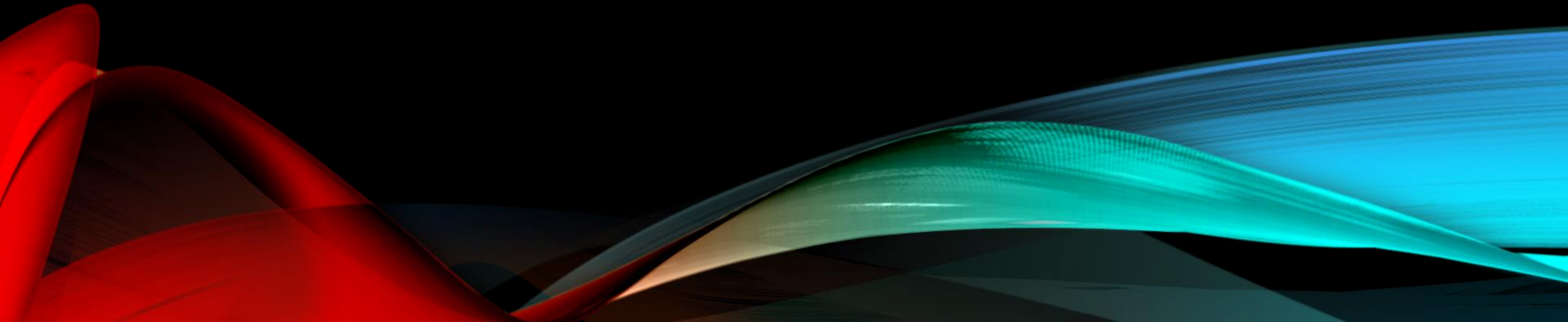
- Historically the act (or art as I called it once) of printing has been a challenge...
  - First hand experience with printing from Oracle Forms&Reports and Pro\*C was very difficult since Drivers, Operating Systems and Hardware were not “in-sync”
  - Inconsistencies in printing methods were common..
  - A few years later and thanks to Windows OS and MacOS components have been homologated.. E.g. hardware is now PCL (or similar) compliant, etc..
- Printing languages have existed but each had a niche in a particular platform





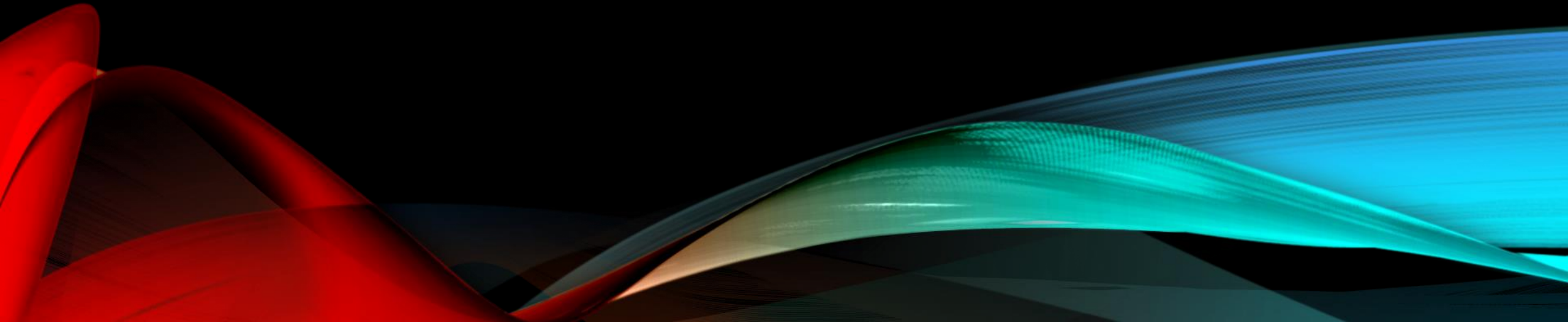
# PROBLEM STATEMENT

- Adobe with their Portable Document Format (PDF) successfully worked on different Operating Systems and Platforms
- Standardization of a Document format has been a challenge due to copyrights and protectionism...
- In 2008 Adobe handed over the full specifications to the ISO (ISO 32000-1) and this is when PDF became the de facto standard for Electronic Documents worldwide



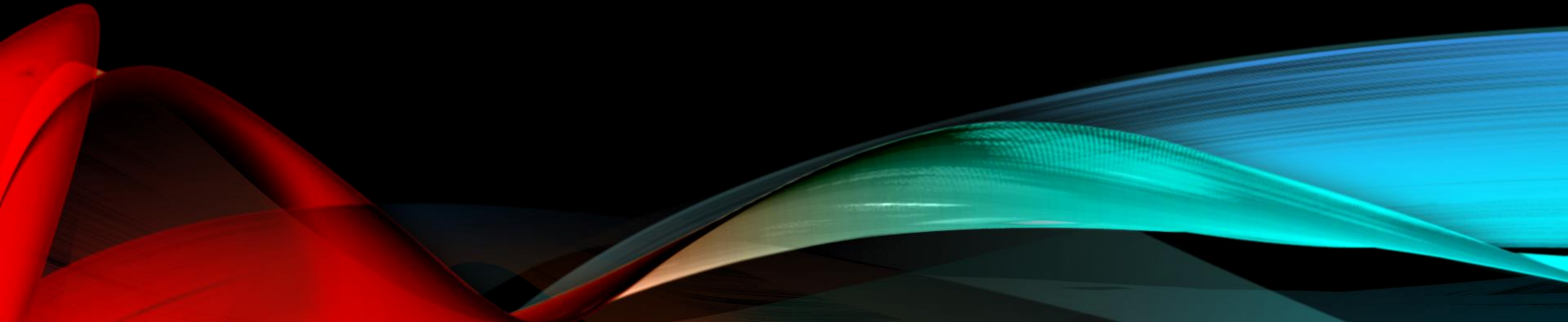
# PROBLEM STATEMENT

- And speaking of printing...
- Printing has been greatly improved with APEX 4.x and up
- Finally you can generate a PDF document out-of-the-box !



# PROBLEM STATEMENT

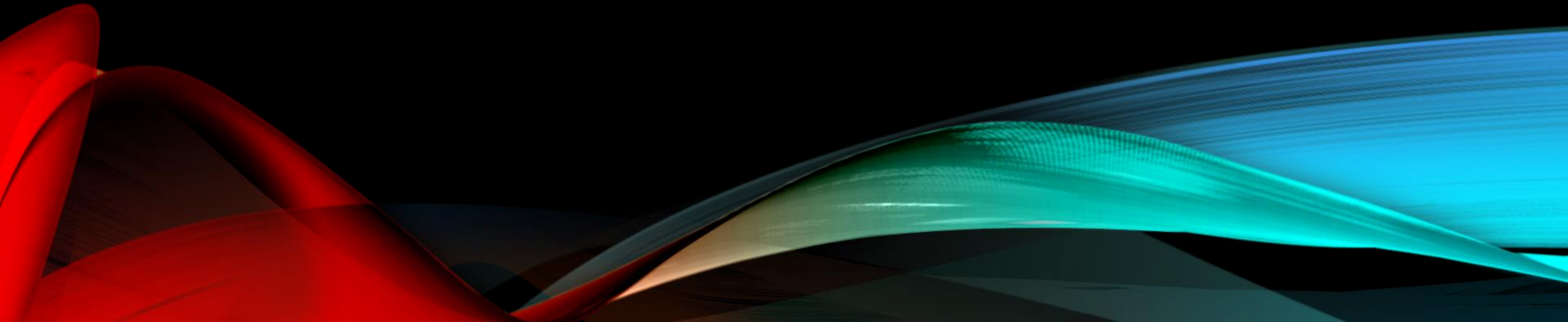
- But the real problem is that you are somewhat limited to what the PDF generation on APEX can do
- Requirements can easily surpass the capabilities, especially for reports that need to rely on a template like invoices, images (e.g corporate Logo), conditional printing, dynamic reports, etc.





# PROBLEM STATEMENT

- To enable PDF printing with those features you will need something more than the basics...
- Your options are (you will need one)
  - Oracle REST Data Services (ORDS) (**Included in APEX** – *Basic Printing*)
  - External (Apache FOP) (**Open Source – Apache License v2** – *You need to be crafty*)
  - Oracle BI Publisher (**Commercial License – Oracle pricing** – *You need to be rich*)





# POSSIBLE SOLUTIONS

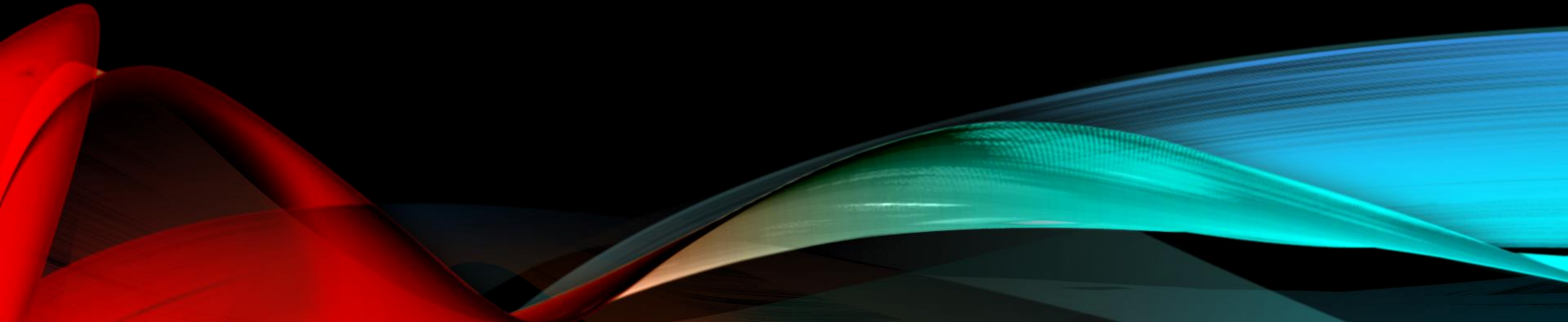
pos·si·ble

(pŏs'ə-bəl) *adj.*

1. Capable of happening, existing, or being true without contradicting proven facts, laws, or circumstances
2. Capable of becoming or of being made to be so; potential
3. Capable of happening but of uncertain likelihood

# POSSIBLE SOLUTIONS

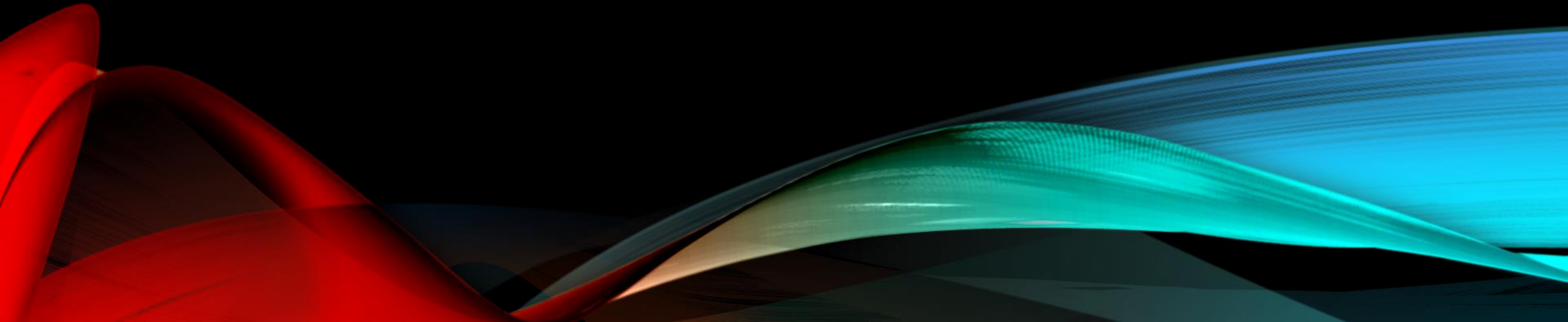
- There are a number of solutions for printing:
  - [Oracle BI Publisher](#)
  - <http://www.apexofficeprint.com/>
  - <http://www.apex-reports.com/>
    - <http://xmlgraphics.apache.org/fop/>
  - <http://community.jaspersoft.com/project/jasperreports-library>
  - <http://community.jaspersoft.com/project/ireport-designer>
  - I'm sure there are many others
  - Some free and some not...



# POSSIBLE SOLUTIONS

Based on the requirements I decided to use:

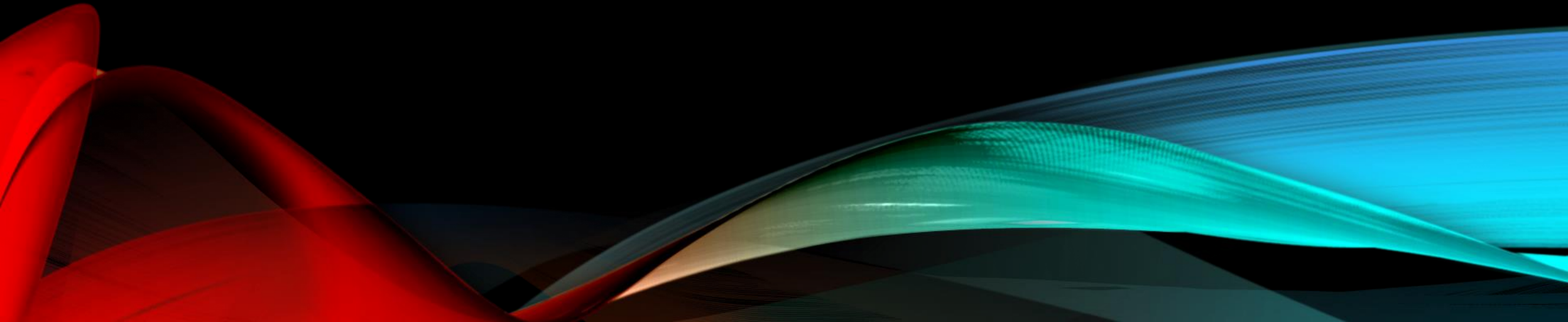
- Pljrxml2pdf : As the engine to generate the PDF document
  - <https://sourceforge.net/projects/pljrxml2pdf/>
- iReport: As the front end tool to generate the needed XML
  - <http://community.jaspersoft.com/project/ireport-designer>



# EXPLORING PLJRXML2PDF AS A SOLUTION

High level description of Workflow:

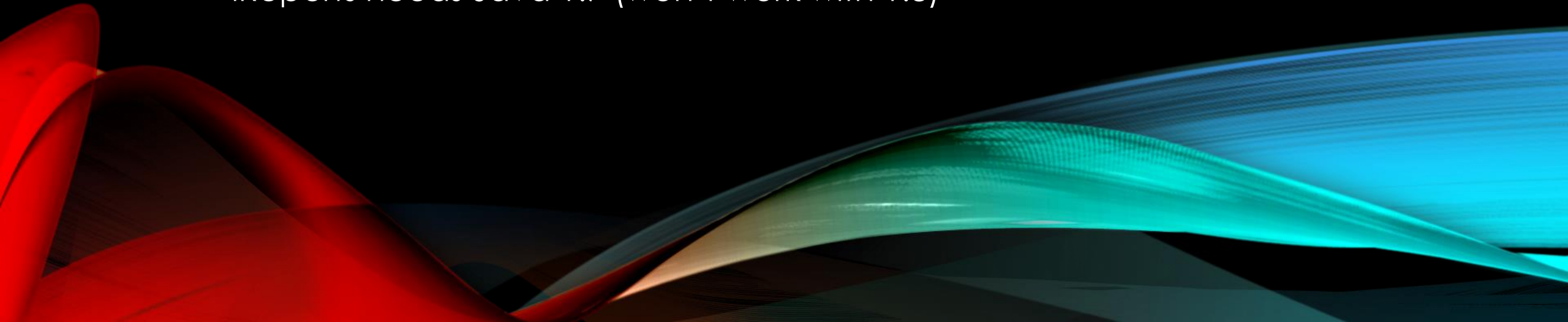
- iReport is the application that creates a template using drag-drop features, preview, etc...
- Once the template is complete, generate the corresponding XML and load it in a table
- Then a PL/SQL call (part of the PLJRXML2PDF package) puts it all together to render the report for the application(s)





# EXPLORING PLJRXML2PDF AS A SOLUTION

- Pros:
  - Components are Open Source, free and easy to use
  - They've been on the market for years, they're stable
- Cons:
  - No commercial support
  - Limited number of Fonts
  - Limited languages and character sets (UTF8)
  - Limited chart types
  - iReports needs Java 1.7 (won't work with 1.8)





# DEMO

dem · o

'demō informal

noun

**1.** a demonstration of a product or technique.

"staff members gave a demo of the technology"

# Q&A

Q and A  
n.

1. A format for presenting information consisting of a series of questions followed by their answers
2. The part of a meeting or presentation during which someone answers questions from people in attendance

# END OF PRESENTATION

Thank you for your attention..

