



DHL Aviation welcomes you!

(this presentation used several video clips, which were removed from this printout version.)





IBM PERFORMANCE EVENTS

Smarter Decisions. Better Results.

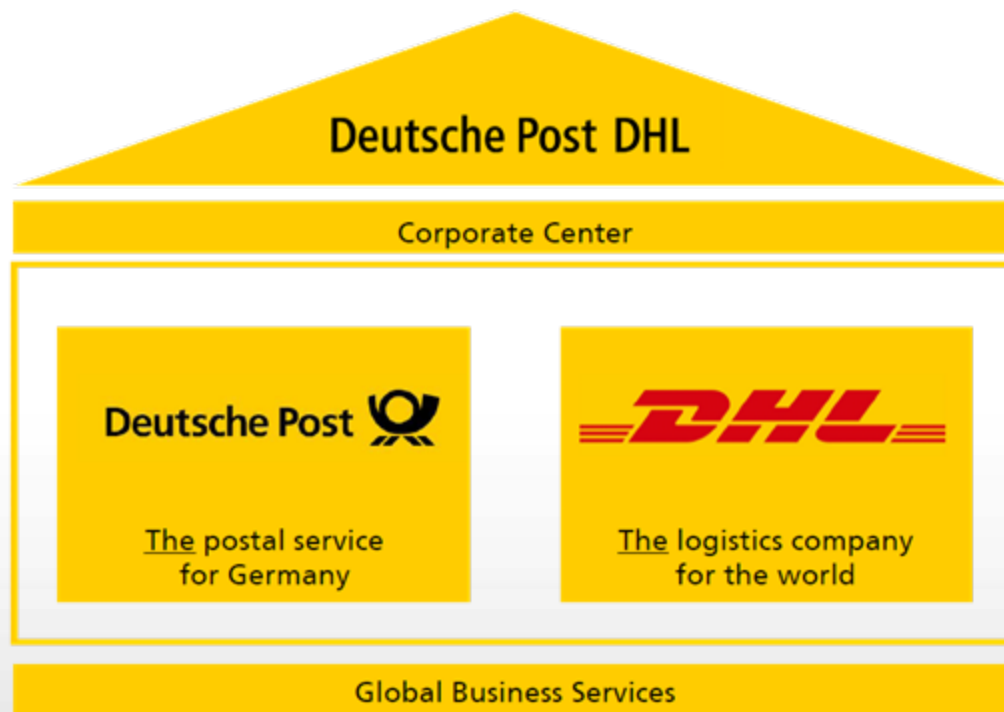
The background of the slide is a complex, abstract geometric pattern. It features numerous overlapping, semi-transparent blue and teal squares and rectangles of various sizes and orientations, creating a sense of depth and movement. Two prominent red 3D cubes are positioned on the left side of the image, one near the top and one near the bottom, both with a bright white light source on their top surfaces, casting a soft glow. The overall aesthetic is clean, modern, and tech-oriented.

Powering-up IBM Cognos BI

Joeri Willems
18 November 2010

1 Introduction

- Deutsche Post DHL Group
 - Deutsche Post
 - Original national mail service Germany
 - DHL
 - Global transport service



1 Introduction

- DHL Group
 - DHL Express
 - Global package & document express transportation service.
 - DHL Global Freight
 - Global logistics partner for large volume shipments.
 - DHL Supply Chain
 - Customized solutions for full supply chain in industries.
 - DHL Mail
 - Global mail service for company mail, publications, etc.



**DHL
Express**



**DHL
Global Freight**



**DHL
Supply Chain**



**DHL
Global Mail**

1 Introduction

- Network Global BI Department
 - Provides Global Reporting facilities to DHL Aviation
 - Global userbase of 1200 users
 - Cognos as main reporting engine
 - Post-operational reporting, refreshed 1-3x / day
 - 2 main data warehouse sets :
 - for reporting on own air fleet (focus on efficiency)
 - for reporting on commercial airline hauling (focus on cost).





2 The 2008-2009 BI Project

- Historical growth of Business Intelligence at DHL Aviation
 - Initial Global Aviation BI project started in 2003
 - 2003 : Initial BI Project
 - 2004 : First Go-Live
 - Explosive growth in business reporting needs
 - 2004 : 20 Reports, 3 Cubes, 80 users
 - 2006 : 120 Reports, 6 Cubes, 250 users
 - 2008 : 1050 Reports, 32 Cubes, 1000 users



2 The 2008-2009 BI Project

- Choice between 2 solutions to kill the monster :

- Fast
- Cheap
- Low performance
- Basic
- Generic design
- Short life
- Bug prone design

A

- Slow
- Expensive
- High Performance
- Detailed
- Branded design
- Long life, future-proof
- Oiled & slick design

B



2 The 2008-2009 BI Project

- Goals of the project :
 - Better **Performance**
 - Higher **Flexibility**
 - Lower **Maintenance** cost
 - Increased **Productivity**
 - Stronger **Visual Appeal**
 - More focus on **Branding**
 - More **User-friendly**
 - Easier **Scalability**



3 Power-ups

- 3.1 Framework & Report Optimization

- Problem:

- A badly designed framework kills performance
- A complexly designed report kills performance as well

- Area:

- Performance

- Solution:

- Optimize both framework and reports

- Possible Gain:

- Reports will run much faster, user experience will look smoother





3 Power-ups

- 3.1 Framework & Report Optimization

- Hints:

- It all starts with your data ware house...
- Read the official Framework Modelling guidelines
- Use aliases in your framework to avoid looping relationships

- Avoid master detail relationships in reports
- Try to play with the Query Hints parameters (Local Cache, Processing) for very long-running queries
- Think logical, avoid complexity in reports



3 Power-ups

- 3.2 Branding

- Problem:

- Reporting sites sometimes do not fit in the company house style
- Business users need to restyle report output before they can use it in official documents/presentations

- Area:

- Increased brand appeal, visual appeal

- Solution:

- Use a site template, style report outputs

- Possible Gain:

- Less time wasted for business users, increased brand awareness



3.2 Branding



GLOBAL AVIATION
BUSINESS INTELLIGENCE

Air Operations Recap Report By Scope



Recap Scope: Europe Reporting Date (UTC): Aug 9, 2010 5:00 - Aug 10, 2010 4:59

ON TIME PERFORMANCE - LOCATIONS

LOCATION	DEP	DEP DELAYS	ARR	ARR DELAYS
BGY	9	0	11	2
BRU	12	1	9	0
CDG	4	1	4	1
CPH	2	0	2	0
EMA	21	1	18	0
LEJ	53	12	49	5
VIT	5	0	7	0

TREND OVERVIEW - PREVIOUS 6 TUESDAYS



ON TIME PERFORMANCE - CARRIERS

CARRIER	FLIGHTS	DEP DELAYS	OTD	ARR DELAYS	OTA
3S	3	1	67%	1	67%
BBD	8	0	100%	0	100%
BCS	27	1	96%	0	100%
DHK	48	7	85%	5	90%
EXN	5	0	100%	1	80%
MNL	1	0	100%	0	100%
MTL	4	0	100%	0	100%
NPT	7	0	100%	0	100%
SWT	14	1	93%	1	93%

MAP OVERVIEW - Europe



Deutsche Post DHL

- 1/13 -

BARDW Reporting by NGBI

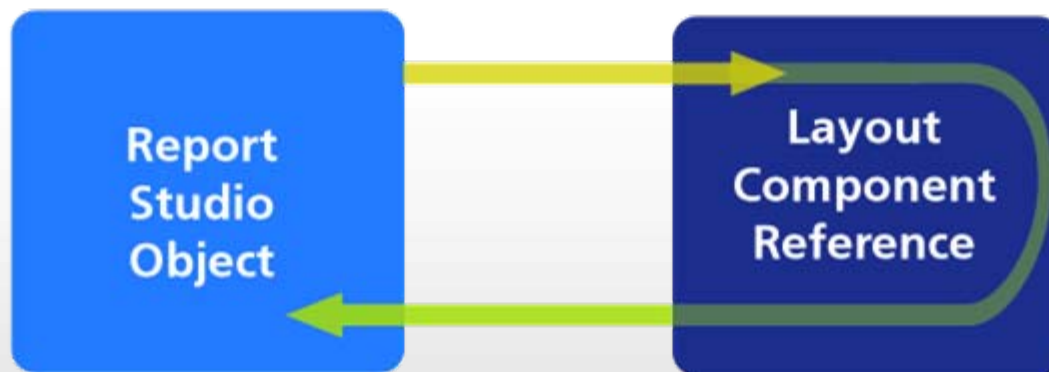
Report v1.00 executed on Aug 10, 2010 6:26:09 AM (UTC)

3 Power-ups

- 3.2 Branding

- Hints:

- Use Layout Component Reference
 - Keep all layout reports in one location, allow read rights but hide content from users.
 - Add building blocks to XML files on the webserver (\webcontent\pat\res)





3 Power-ups

• 3.3 Building Blocks & Templates

— Problem:

- Report maintenance cost increases on every report added
- Reports grow out of sync with older report styles
- Report authors waste time styling every report

— Area:

- Maintenance, productivity

— Solution:

- Use layout component references & report templates

— Possible Gain:

- Report authors work faster, reports stay in sync, can be adapted in one go



3.3 Building Blocks & Templates



File Edit View Structure Table Data Run Tools Help

Font: Size 1 pt

Insertable Objects

- BARDW Air - Query Package
 - Civil Dates
 - Operational Dates
 - Origins Geo Hierarchy 1
 - Origins Geo Hierarchy 2
 - Origins
 - Destinations Geo Hierarchy 1
 - Destinations Geo Hierarchy 2
 - Destinations
 - On Time Origin
 - On Time Destination
 - Vehicles
 - Vehicle Versions
 - Movement Types

GLOBAL AVIATION BUSINESS INTELLIGENCE

Functional Scope: <Functional Scope>
 Sector Type: <%IF (ParamCou...%>
 Origin Location: <%IF (ParamCou...%>
 Origin Subregion: <%IF (ParamCou...%>
 Destination Location: <%IF (ParamCou...%>
 Flight Flag: <%IF (ParamCou...%>

Date	Operating Carrier	Aircraft Registration	Movement Designator	Aircraft Type	Actual Origin	STD (UTC)	ATD (UTC)	Actual Destination	STA (UTC)
<[Date]>	<[Operating Carrier Code]>	<[Aircraft Registration]>	<[Movement Designator]>	<[Vehicle Type]>	<[Actual Origin]>	<[Sched Departure_UTC]>	<[Actual Departure_UTC]>	<[Actual Destination]>	<[Sched Arrival_UTC]>

Component Reference

Component Location

This report
 Another report

Layout Library - Generic

Available components to reference:

- LIB_MP_INFOHEADER
 - ScopeHeader_Singleton
 - LIB_MP_CUSTOMHEADERS
- LIB_MP_INFOFOOTER
 - DetailReportPage_Singleton
 - HISTORY1
- LIB_MP_HEADER
 - ReportHeader_Singleton
- LIB_MP_FOOTER

Report Name
 Report Data
 Design Notes
 Change Hist
 [Layout refer

Report Version:
 Template Version:
 Main Business Owr
 Main Business User
 Last Update:
 Model Package:
 Functional Scope:
 Report Regional S
 Report Secured Sc

Report Description
 [Layout reference nc

Properties: Layout Component Reference

General	
Component Reference	LIB_MP_INFOHEADER
Overrides	(Defined)
Embed	Reference

OK Cancel

3 Power-ups

• 3.3 Building Blocks & Templates

— Hints:

- Use Layout Component Reference
- Keep all layout reports in one location, allow read rights but hide content from users.
- Add building blocks to XML files on the webserver (\webcontent\pat\res)
- Add preset filters to your framework.





3 Power-ups

- 3.4 Report Info Headers

- Problem:

- Users do not know of special business rules applied to a report
 - Business users need to run a report before they know what it is about

- Area:

- User-friendliness

- Solution:

- Create an information header in the prompt page

- Possible Gain:

- Business users waste less time finding the right report
 - Business users know immediately who to contact



3.4 Report Info Headers



GLOBAL AVIATION BUSINESS INTELLIGENCE

BARDW OnTime Reporting

Flight Detail by Flight Number Generic



Report Detailed Information:

Report Name: Flight Detail by Flight Number
Report Database ID: 157
Design Notes: -Movement Designator not like '%P'

Change History:

v1.00 11 Aug 09 Saskia van Oldenborgh Regport migrated to 8.4, templated

Report Version: 1.00
Template Version: 2.80
Main Business Owner: Ben Bridge
Main Business User: Ben Bridge
Last Update: Aug 11, 2009 12:00:00 AM
Model Package: BARDW
Functional Scope: OnTime
Report Regional Scope: Generic
Report Secured Scope: Global

Report Description:

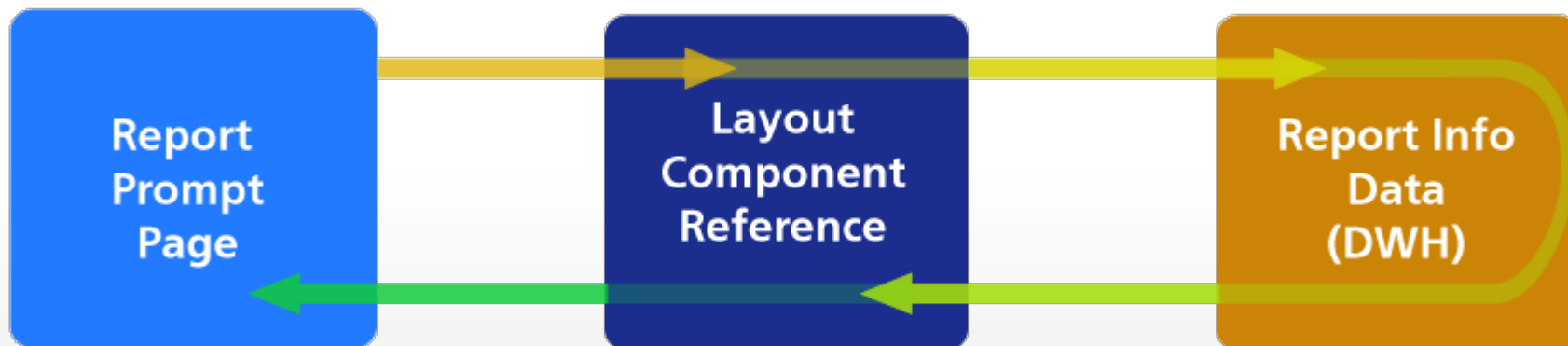
This report shows per day, operating carrier per flight scheduled - and actual time details (e.g. departure-, arrival-, block- and taxi time). It also shows the Net weight and Fuel Burn.

3 Power-ups

- 3.4 Report Info Headers

- Hints:

- Keep a separate table with business report info and change lists
 - Use Layout Component Reference
 - Use HTML DIV to show/hide the header





3 Power-ups

- 3.5 Auditing Data Warehouse

- Problem:

- User info, report info, Cognos content resides in different databases
- No visibility for reporting staff or key business users

- Area:

- Performance, productivity

- Solution:

- Create a small datawarehouse connecting all data

- Possible Gain:

- More information (which reports/users/.. are used, which not?)
- More possibilities for reporting



3 Power-ups

- 3.5 Audit Data Warehouse

- Hints:

- Write an ETL procedure to load the data
- Clean the data and link it in the ETL procedure
- Create a solid framework





3 Power-ups

- 3.6 Active Trigger Cube Building
 - Problem:
 - Cube builds by passive file triggers is depreciated in 2010
 - Wastes resources on cube build machine
 - Area:
 - Flexibility, performance
 - Solution:
 - Use an active trigger method, like HTTP triggering
 - Possible Gain:
 - Less resources used, cleaner setup






3.6 Active Trigger Cube Building

DHL Trigger Menu

Please select your required DHL Trigger.

Please Select A Trigger:

Cubes Rebuild Test Trigger 

Selected Trigger:

Cubes Rebuild Test Trigger

Password:

●●●●●●●●


Run Trigger

Result:

Process BUILDMODEL.TEST.AIR failed to start.

Request initiated at Wed Dec 8 16:11:26 UTC+0100 2010.

Error 15 occurred.

Please supply the correct password for group TEST 

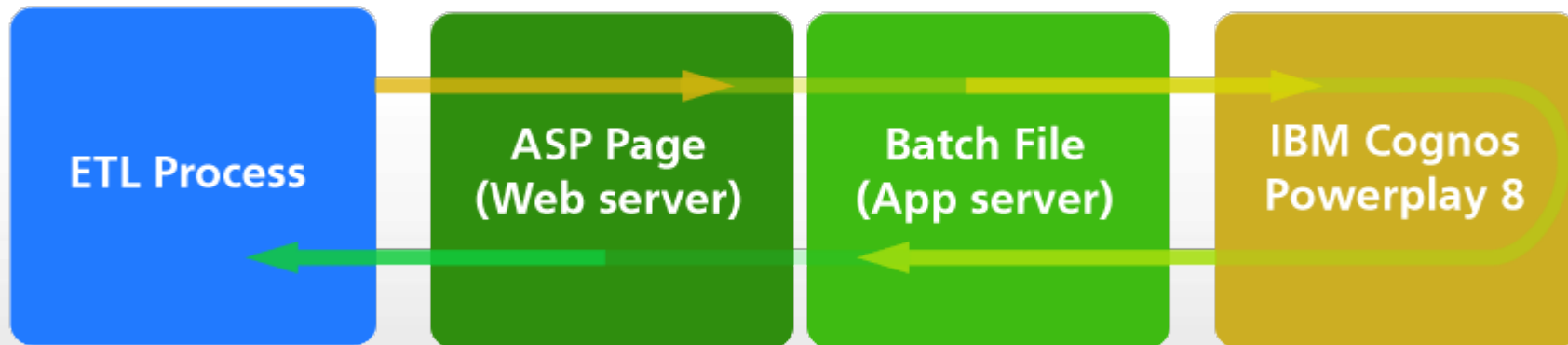


3 Power-ups

- 3.6 Active Trigger Cube Building

- Hints:

- Use WMI Service object
- Link it to winmgmts:\\PC_NAME\root\cimv2:Win32_Process
- This is an object that can run a command on a remote server
- Set up security on the remote server to allow this





3 Power-ups

- 3.7 Event Handling

- Problem:

- Scheduled reports are too complex, bursting is limited
- Business users receive reports

- Area:

- User-friendliness, maintenance, flexibility

- Solution:

- Use the full functionality of Event Studio

- Possible Gain:

- Much more flexibility, users get decent reports in clear e-mails



3.7 Event Handling



Specify the email to send

Specify the recipients and contents of the email. To add recipients, click Select the recipients or type the email addresses separated by semi-colons. Body box empty and select the report as the only attachment.

To:

Cc:

Bcc:

[Select the recipients...](#) [Hide Bcc](#)

Run this email for the events:
New

Subject:

Body: [Change to plain text >>](#) **B** **I** **U**

Air Operation...
(PDF, en)

[Attach](#) [Add links...](#)

T

3 Power-ups

- 3.7 Event Handling

- Hints:

- Use Event Studio
 - Inform business users pro-actively of this possibility
 - Use conditional schedules
 - Write nicely formatted HTML e-mails with plenty of information





3 Power-ups

- 3.8 Advanced Prompting
 - Problem:
 - Business users require prompt pages to be fast and easy to use
 - Area:
 - User-friendliness, productivity
 - Solution:
 - Add autocomplete functionality and more user-friendly prompts
 - Possible Gain:
 - Users waste less time in prompt pages



3.8 Advanced Prompting



Origin Location:

Origin Region/Country Cluster:

LEI

LEI (Almeria, Spain)

LEJ (Leipzig-Halle, Germany)

LEJAIP (Leipzig Airport Cargo Center, Germany)

LRA (Leiria Dhl, Portugal)

RDU (Raleigh/Durham, North Carolina, United States Of America)

XLD (Leida Express Centre, Spain)

Undefined

Insert →

← Remove

Choices:

Select all Deselect all

Country Cluster:

CISSEE

Caribbean

Greater China

H&G Alps

Deselect all

Deselect all

3 Power-ups

- 3.8 Advanced Prompting

- Hints:

- Javascript inside HTML Item
 - Use open source jQuery module for autocomplete
 - Use layout component references





3 Power-ups

- 3.9 Definition Glossary

- Problem:

- Business users do not always know every business definition

- Area:

- User-friendliness, productivity

- Solution:

- Add a definition glossary link to IBM Cognos BI

- Possible Gain:

- Users waste less time looking up what a report is all about



3.9 Definition Glossary



Delay 3 Description	Delay 3 Minutes	Actual Block Time	Scheduled Block Time	Block Time Difference	Taxi Time At Origin	Taxi Time At Destination
		08:55	09:15	-12:20 AM	00	
		08:30	08:30	-12:00 AM	00	
		05:50	06:05	-12:15 AM	00	
		06:55	06:40	+12:15	00:44	00:10

- Drill Down
- Drill Up
- Go To
- Glossary
- Lineage

http://ngbi.avi-dc.dhl.com/datafind/glossary.asp?searchBy=T...

Network Global Aviation BI Business Terms Glossary v1.01

Lookup : Taxi Time At Origin

Taxi Time: The total amount of time between either departure block moment and take-off moment (Origin Taxi Time) or touch-down moment and arrival block moment (Destination Taxi Time).

3 Power-ups

- 3.9 Definition Glossary

- Hints:

- ASP: ADODB Connection, ADODB recordset
 - ODBC Connection
 - Cognos Administration : Glossary URI : link to ASP page.
 - Add glossary definition table to DWH.





3 Power-ups

- 3.10 Documentation

- Problem:

- Knowledge can easily be lost
- New installations using an existing model take a long time

- Area:

- Scaleability, maintenance

- Solution:

- Write documentation on all customizations, store them together

- Possible Gain:

- New setups are up and running in no time



3.10 Documentation



7.2 Custom Cognos 8 Skin Colors

We have applied a customized DHL skin for all our users. This skin contains all the official DHL colours, logos and fonts. It was made internally, because of its complexity no information is provided, only the source files. The source files are commented where possible.

Following colour corrections were generally made (but can differ a lot, the rule of thumb is, do not just blindly change colours, but try to use the original colour code ccs pages we now created):

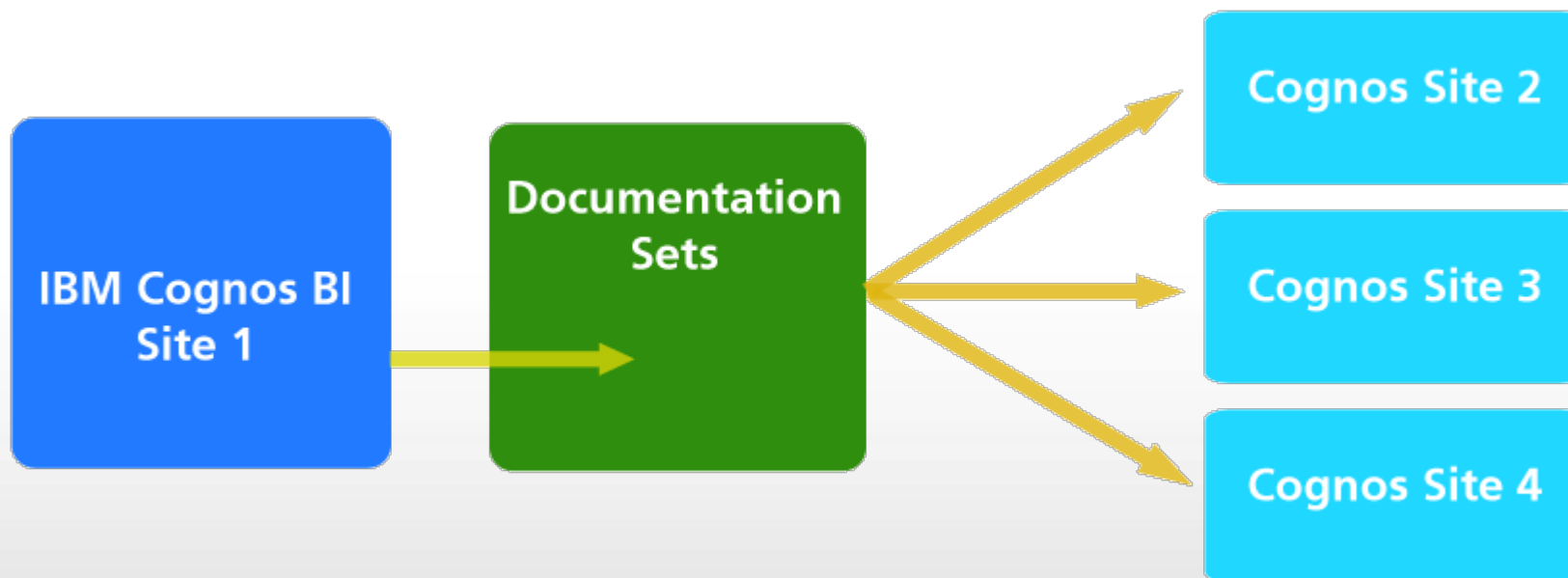
<u>Old Color Code</u>	<u>New Color Code</u>	<u>New Color Name</u> (*= <u>NGBI specials</u>)	<u>Special Use</u>
#000099	#BB0000	DHL Fat Title Red*	Used in Titles with darker background, and in titles that need different colour than other text that is in DHL Red.
#666699	#FFE88C	DHL Yellow 45%	
#666699	#FFDB4C	DHL Yellow 70%	
-	#666666	DHL Black 60%	Visited Links
-	#EB7A16	DHL Orange	Active Links
-	#D40511	DHL Red	Text, links, Logo Foreground
#D8DEDC	#FFCC00	DHL (Post)Yellow	Logo Background, <u>Menubar</u> , <u>Titlebar Background</u>

3 Power-ups

- 3.10 Documentation

- Hints:

- Have all customizations clearly documented
 - Do not exaggerate – keep it useful, not bureaucratic
 - Store all adapted files in one central location





4 Linking back to the Goal

- Reminding you on the goals :
 - Better **Performance**
 - Higher **Flexibility**
 - Lower **Maintenance** cost
 - Increased **Productivity**
 - Stronger **Visual Appeal**
 - More focus on **Branding**
 - More **User-friendly**
 - Easier **Scalability**



4 Linking back to the Goal

- Better **Performance**
- Higher **Flexibility**
 - **Power-ups:**
 - Framework & Report Optimization
 - Auditing Datawarehouse
 - Active Trigger Cube Building
 - **Results:**
 - Average report runtime reduced by 78%
 - Users see prompt screens 211% faster
 - Report usage can be analyzed

4 Linking back to the Goal

- Lower **Maintenance** cost
- Easier **Scalability**
 - **Power-ups:**
 - Building Blocks & Templates
 - Documentation
 - Event Handling
 - **Results:**
 - All reports can be managed centrally at one location
 - Setup can easily be extended or implemented in other system
 - Less reports, all standardized (1050 -> 150 reports)



4 Linking back to the Goal

- Increased **Productivity**

- **Power-ups:**

- Advanced Prompting
- Building Blocks & Templates
- Event Handling
- Definition Glossary

- **Results:**

- Users waste less time running reports
- Authors lose less time building reports
- Most reports can be scheduled professionally





4 Linking back to the Goal

- Stronger **Visual Appeal**
- More focus on **Branding**
 - **Power-ups:**
 - Event Handling
 - Branding
 - **Results:**
 - Company brand is clearly visible, users do not need to re-brand report outputs for presentations
 - Professionally looking scheduled reports by e-mail

4 Linking back to the Goal

Visual Appeal Improvement – Cognos Connection

- Old
- New

DHL Global Business Intelligence Environment - Joeri Willems



[Welcome](#) |
 [Public Folders](#) |
 [My Folders](#)

Public Folders

	Name
<input type="checkbox"/>	BAR Project
<input type="checkbox"/>	CAL DW Project
<input type="checkbox"/>	Linehaul Cost Database
<input type="checkbox"/>	Road Reporting
<input type="checkbox"/>	Personal Folders



[Public Folders](#) |
 [My Folders](#) |
 [DHL Network Global](#)

[Public Folders](#) >
 [DHL Network](#) >
 [Efficiency Reports](#) >
 [On-Time Performance Reports](#)

	Name
<input type="checkbox"/>	Air Operations Detail Report
<input type="checkbox"/>	Air Operations Interco Recap Report
<input type="checkbox"/>	Air Operations Recap Report
<input type="checkbox"/>	Air Operations Recap Report By Scope
<input type="checkbox"/>	Flight Detail by Flight Number



4 Linking back to the Goal

Visual Appeal Improvement – Report in PDF

- Old
- New

BSA Fuel Captured

Location Code	# Flights	Dep Fuel Entered	Arr Fuel Entered
BRU-CDG			
BRU-LYS	4		
BRU-NTE	4		

Flight Detail by Flight Number

Regional Scope: Global
Civil Year/Week : Previous Week (201045)
Origin Region: All
Movement Designator: All
Carrier: All

Arrival Time Difference	Delay1 Code	Delay1 Description	Delay 1 Minutes	Delay 2 Code	Delay 2 Description	Delay 2 Minutes
+00:15	21C	Documentation	11			



4 Linking back to the Goal

- More **User-friendly**

- **Power-ups:**

- Advanced Prompting
- Report Information Headers
- Definition Glossary

- **Results:**

- Users are much happier to use your system
- Users lose less time in searching for information elsewhere





5 Future Plans

- Related Future Projects
 - Analyze possibility to revamp Back-End (Data Ware House) in a similar way
 - Migrate Frontend solution to other BI systems in Global DHL Express

6 Round-up



- That's all folks.
- Feel free to ask questions!

