Les journées
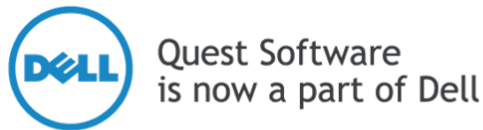# SQL Server 2013

Merci à nos sponsors

HP Technology Consulting
SQL Services

Philippe Blondeaux – TS Consulting Portfolio lead for SQL Server Services

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Compelling Event

What are customers looking for ?

Big data and Business Intelligent

How to manage the 3 Vs?

- High volume
- Velocity
- Variety

How to be cost effective?

How to Secure?

How to Innovate?

How to Process Information?

1

How to manage Critical Business Data?

How to assure data will be always available?

How to reduce Complexity?

How to maintain Suitable Service Levels?

How to ensure performance to access to critical data?

2

Reduce capital and operational expenses

How to transform in a cost efficient way?

How to reduce risk when changing?

How to limit business & availability impact?

How to consolidate database instances?

How to move their data to SQL Server?

3

Engagement Options

Spanning the Service Lifecycle

STRATEGICAL

TACTICAL

Assessment, Strategy & Roadmap

Architecture & Design

Infra Integration & Residency Consultancy

Data Migration

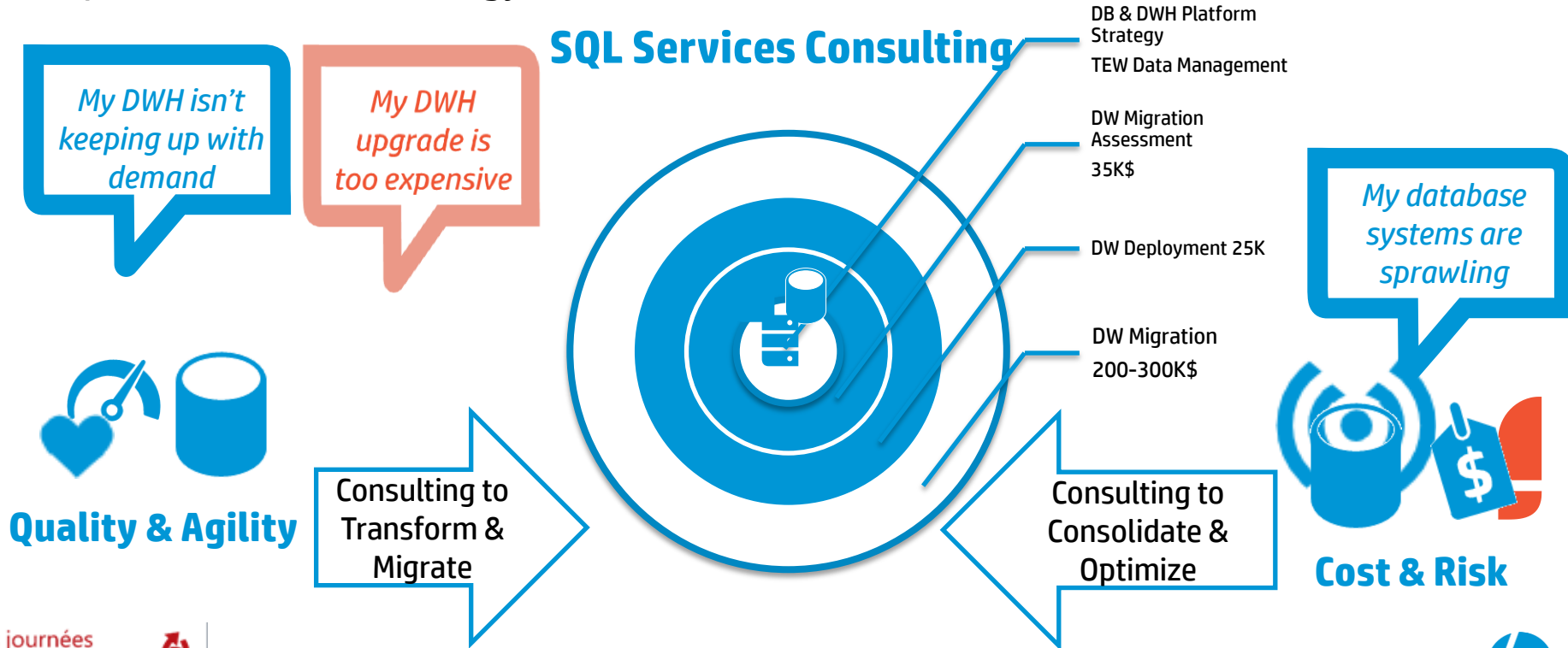| Strategy		Design	Implementation	
Oracle to SQL Business Value Assessment PDW Discovery Workshops	Discovery & Assessment (Oracle, PDW and SQL Consolidations	Reference Architectures	Design & Migration Modeling Tools	Service Delivery Guides
				Expertise Pools & Knowledge Network

Operations

Improvements

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Packaged Consulting Services

SQL Server Data Warehouse related Consulting

People - Process - Technology

My DWH isn't keeping up with demand

My DWH upgrade is too expensive

SQL Services Consulting

DB & DWH Platform Strategy

TEW Data Management

DW Migration Assessment

35K$

DW Deployment 25K

DW Migration

200-300K$

My database systems are sprawling

Quality & Agility

Consulting to Transform & Migrate

Consulting to Consolidate & Optimize

Cost & Risk

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Customer Benefits

Foundations for a value proposition statement

Improved Efficiency

End-to-End Solutions. Aligned with BCS SQL solutions.

Business-to-IT Alignment to provide Business Intelligent infrastructure.

Collaborative approach leveraging customer capabilities and application integration.

Reduced Risk

End-to-End Responsibility

Proven Methodology

HP Appliances used in the majority of the proposals.

Standard tools used in assessments

Faster access to Benefits

Speed of migration using "Factory Model" in SQL consolidation projects.

IT Staff & User Training

Better business performance in renewed SQL infrastructures (Mission Critical, PDW).

Microsoft data warehousing solutions

Microsoft® SQL Server 2012 Enterprise	Microsoft® SQL Server 2012 Fast Track Data Warehouse	Microsoft® SQL Server 2012 Parallel Data Warehouse
Scalable and reliable symmetric multiprocessing (SMP) platform for data warehousing on any hardware	Reference architectures	Appliance for high-end massively parallel processing (MPP) data warehousing
Ideal for data marts or small to mid-sized enterprise data warehouses (EDWs)	Ideal for data marts or small to mid-sized data warehouses with scan-centric workloads	Ideal for high-scale or high-performance data marts and EDWs
Software only	Reference architectures (software and hardware)	Data warehouse appliance (fully-integrated software and hardware)
10s of TB	5 – 120 TB	10s of TB – 6 PB

HP Enterprise Group Products & Solutions

- **EG – I2A Data Warehouse Platforms**
  - HP AppSystem for PDW :¼ , ½ , ¾ , Full Rack, Multi-rack
  - Fast Track Data Warehouse Ref Arch FTDW 4.0 with SQL Server 2012 : DL380, DL580, DL980

- **TS Consulting Data Warehouse related Services :**
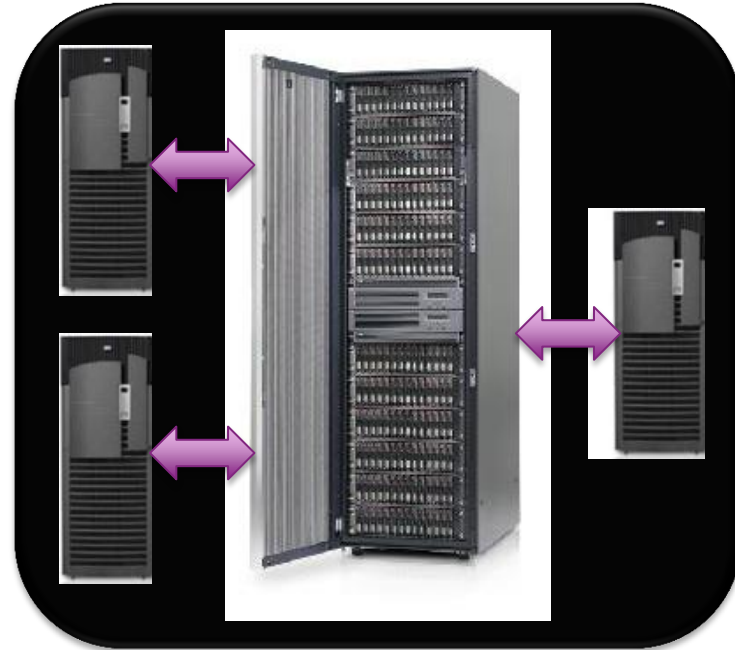 - DW Advisory Service
  - DW Migration Assessment Service
  - PDW Deployment Accelerator Service
  - Fast Track Data Warehouse Start Service
  - DW Migration Service

Your critical business data in Microsoft SQL

Fast Track Data Warehouse - FTDW

Some SQL Data Warehouses today

Big SAN
Big SMP Server
Connected together

What's wrong with this picture?

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Answer: system out of balance

This server can consume 16 GB/Sec of IO, but the SAN can only deliver 2 GB/Sec

Even when the SAN is dedicated to the SQL Data Warehouse, which it often isn't
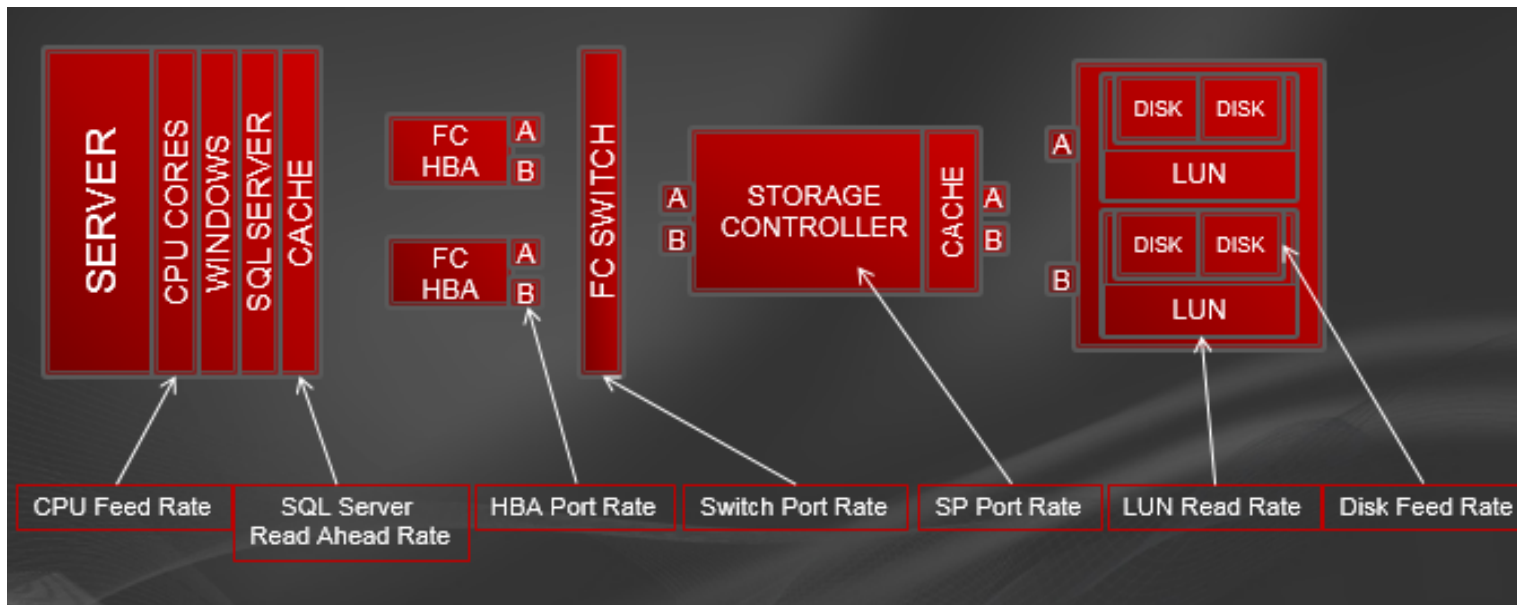
Lots of disks for Random IOPS *BUT*

Limited controllers → Limited IO bandwidth

System is typically IO bound

Queries are slow

Result: significant investment, not delivering performance

Need for a balanced architecture

What's new in Fast Track Data Warehouse Reference Architectures for SQL Server 2012

- Balanced database and hardware configurations for latest SQL Server and HP hardware capabilities
- New and enhanced benefits with Fast Track and SQL Server 2012

You benefit from...

Enterprise Scale

- Latest generation servers and storage
- Handles large customer workloads
- Scale to 60TB
- Table partitioning scales to 15,000 partitions

Next-Generation Performance

- xVelocity in-memory technology suite
- Microsoft is first major vendor to offer true column store indexing
- Generational leap in performance, 10 to100x faster
- Support for solid state storage
- Support for up to 256 logical cores

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Microsoft SQL Server 2012

Fast Track Data Warehouse solutions

Extending our portfolio

- HP DL380 Gen8 with HP P2000 G3 MSA
  - E5-2690 Sandybridge CPUs (16 Cores)
  - 30TB Fast Track Data Warehouse User Rated Capacity
- HP DL580 G7 with HP P2000 G3 MSA
  - E7-4870 CPUs (40 Cores)
  - 60TB Fast Track Data Warehouse User Rated Capacity
- Accelerate deployment and optimize results
- Balanced hardware approach ideal for data marts

xVelocity

(aka ColumnStore Index)

Boost query performance by up to 10x

More value to end-users

- **Sub-second** query response
- **Faster time** to business insight

Reduce costs

- **Greater performance** on less hardware
- **Easy to manage**, built into SQL Server, most solutions externally managed at additional cost

How it works

- **Read-only workloads**, Data Warehousing
- **Builds a new view** on top of the existing tables
- **Fetches only those columns needed**
- **Performance increased** varies to 100x for some customers depending on their environment

Existing Pages

C1	C2	C3	C4	C5	C6

Needed Columns
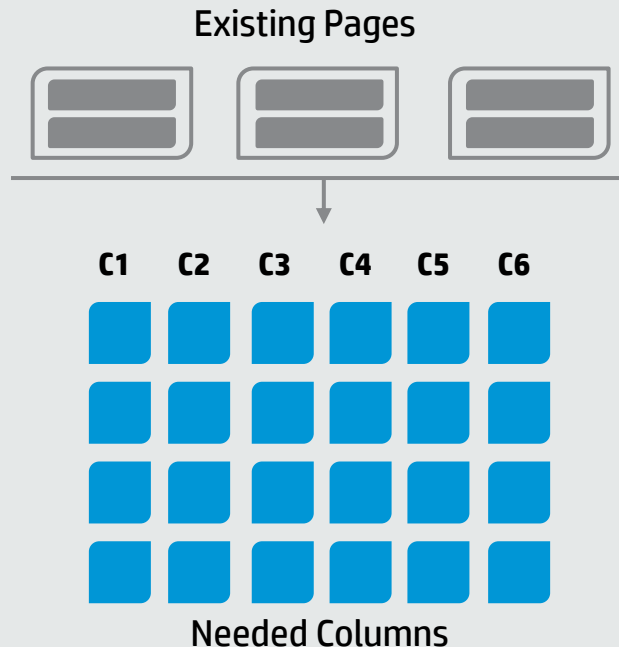
Consistent performance

Capacity linked to throughput

- Published database storage capacity figures must guarantee a minimum I/O throughput to pass validation
- Throughput is based on empirical data from Fast Track Data Warehouse validated systems
- Ensures that customers are able to make accurate comparisons between partner systems

Min rate MBs	Max rate MBs	FTDW target capacity TB	Capacity category ratio	Modifier	MTS
10500	20000	80	100%	0	27
9200	10499	70	88%	0	27
7900	9199	60	86%	0	27
6600	7899	50	83%	0	26
5300	6599	40	80%	0	26
4000	5299	30	75%	0	26
2700	3999	20	67%	0	26
1500	2699	10	50%	100	23
1000	1499	5	50%	100	17
600	999	2	40%	100	12

2 socket 12-20 core Intel @ 300+ MCR

4 socket 32-40 core Intel @ 300+ MCR

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Factory Express Service

Without HP Factory Express:

- Complexity

- Confusion

- Slow time to solution

With HP Factory Express:

- Faster time to solution

- More available IT resources

- Maximized IT investment

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End to End support for SQL Server 2012

Fast, effortless migration, installation, and deployment

Complete lifecycle solution services to accelerate time to business results

Strategy Services

Design and Transition

Start Services

HP Support

Application transformation and hosting options

Flexible leasing and financing to accelerate business priorities

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HP Fast Track DW Start Service

Deploying your FTDW RA with SQL Server 2012

- ✓ Complementary to Factory Express 4 Service
- ✓ Install Server OS & SQL 2012
- ✓ Network integration , IP configuration, security
- ✓ Configure P2000 storage
- ✓ LUN and logical volume creation ,MPIO config
- ✓ SQL 2012 tuning
- ✓ MCR and BCR performance testing
- ✓ Loading test data , baseline compare and perform SQL test queries

Your critical business data in Microsoft SQL

HP PDW SQL Server 2012 Parallel Data Warehouse

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HP PDW TS Consulting Services

- ## Operationalize the power of PDW

HP-PDW Assessment Service – Assessment of the effort required to migrate an existing data warehouse to PDW

HP-PDW Deployment Accelerator Service – To configure, integrate and operationalize the HP AppSystem for PDW.

HP-PDW Advisory service –1 week generic service for a Data Warehouse expert . Can be 5 weeks total.

HP-PDW Migration Service – custom SOW Service based on the Migration Assessment Service SOW

6 PB

Big Data
for the masses

HP PDW Migration Assessment Service

Predict the effort of migrating a Data Warehouse

- ✓ Check requirements , estimate capacity, sizing of target mid to long term
- ✓ Analyze Number of users, types of queries, mixed queries, reports
- ✓ Analyze the different data sources data types and integration , enhancement needs, compatibility with PDW.
- ✓ Required data load performance, parallel loading, data refresh rate
- ✓ Existing DW Star schema design review, compatibility and migration effort to PDW
- ✓ Review of existing ETL design and estimate effort for migration
- ✓ Check requirements around data security and access control
- ✓ Performance Tuning recommendations, leveraging PDW unique architecture
- ✓ Check network and integration requirements
- ✓ Deliverable : summary requirements document and migration project plan, present findings to sponsors, SOW for the migration.

HP PDW Deployment Accelerator Service

Accelerate implementation, operationalize and personalize your HP PDW

- ✓ Appliance startup and validation
- ✓ IP configuration, Network integration, VLAN, trunking
- ✓ Explain security and change passwords
- ✓ DIP Server / Loading Zone Backup Server integration, OS install & IFB NW configuration
- ✓ Install PDW client tools and SSDT on DIP Server, optionally install HP Insight Remote Support
- ✓ TPC/H test data generation with dbgen and data loading using Dwloader .
- ✓ Benchmark test of load and TPC/H SQL query, compare with Lab results
- ✓ BI Tools & Report connectivity and testing using sample reports
- ✓ Database administration, creation of users , roles and grants
- ✓ Test of backup and restore of a test database + hand over to customer.
- ✓ Custom quote + SOW based on an Assessment is required in case an existing DW needs to be migrated.

HP PDW Advisory Service

Provide Data Warehouse expert advice

- ✓ Generic service without fixed scope
- ✓ 1 week , 40 hour increments
- ✓ To be agreed with customer before start what the scope will be
- ✓ Can cover :
  - DW infrastructure setup and deployment
  - ETL and data loading
  - Performance testing and validation comparing with baseline
  - SQL query tuning
  - BI Tools & Report connectivity and testing
  - Operational management of the data warehouse
  - Advice on Adding Capacity

HP PDW Migration Service

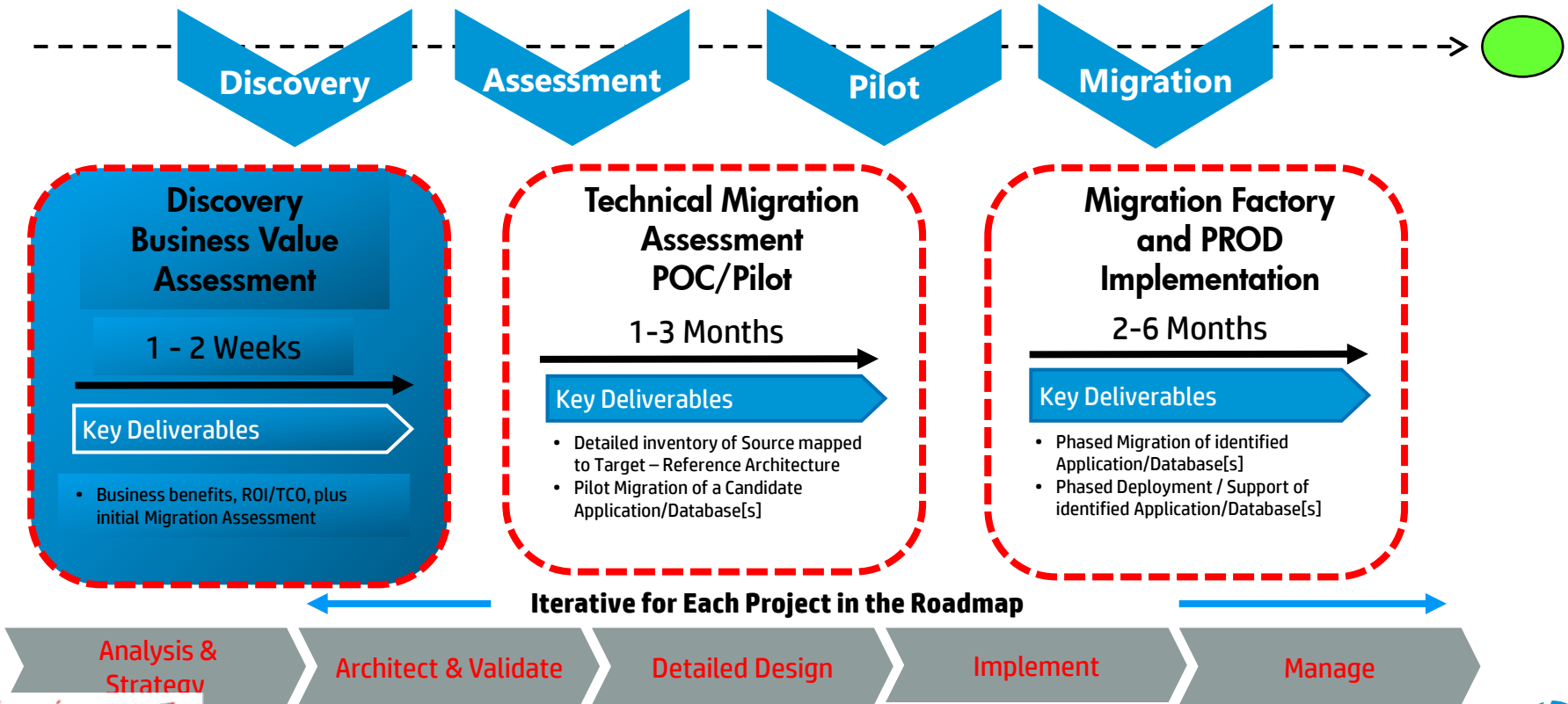Migrate from SQL Server, Oracle, Teradata, DB2 to PDW

- Based on custom SOW delivered during the Assessment Service

- Migration assumes that there is an existing data analysis and design of the Data Warehouse.

Your critical business data in Microsoft SQL

Oracle and other DBMS migration to Microsoft SQL

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Oracle to SQL Server Migration Engagement Model

Discovery **Assessment** **Pilot** **Migration**

Discovery Business Value Assessment

1 - 2 Weeks

Key Deliverables

- Business benefits, ROI/TCO, plus initial Migration Assessment

Technical Migration Assessment POC/Pilot

1-3 Months

Key Deliverables

- Detailed inventory of Source mapped to Target – Reference Architecture
- Pilot Migration of a Candidate Application/Database[s]

Migration Factory and PROD Implementation

2-6 Months

Key Deliverables

- Phased Migration of identified Application/Database[s]
- Phased Deployment / Support of identified Application/Database[s]

Iterative for Each Project in the Roadmap

Analysis & Strategy Architect & Validate Detailed Design Implement Manage

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Business Value Assessment

Gather Technical & Business Requirements

High Level Business Case / ROI study

High Level Oracle Database and Application assessment

High Level Hardware and Infrastructure assessment

Review of Oracle instances, related applications, licensing

Output deliverables:

Documented ROI

Prioritized Migration Strategy & Roadmap recommendations

Typically up to 15 instances/apps included in detail

Typically internally developed apps

5 – 10 day Assessment, on site

MAP and SSMA tools utilized as part of the engagement

HP will need ability to run other tools as part of engagement

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Migration Tools from Microsoft

Migrate to SQL Server

Microsoft Assessment and Planning (MAP)

(Oracle, MySQL, Sybase)

Scan heterogeneous server environments (Windows, Linux & HP-UX operating systems)

Create Inventory of Oracle, Sybase, MySQL and SQL Server databases & instances across network

✓ **Easy Scoping for Server & Storage Consolidation, Database Migrations and Upgrade**

✓ **Smart utilization of Infrastructure**

✓ **Streamline SQL Server software licensing**

SQL Server Migration Assistant (SSMA)

(Oracle, MySQL, Sybase, MS Access)

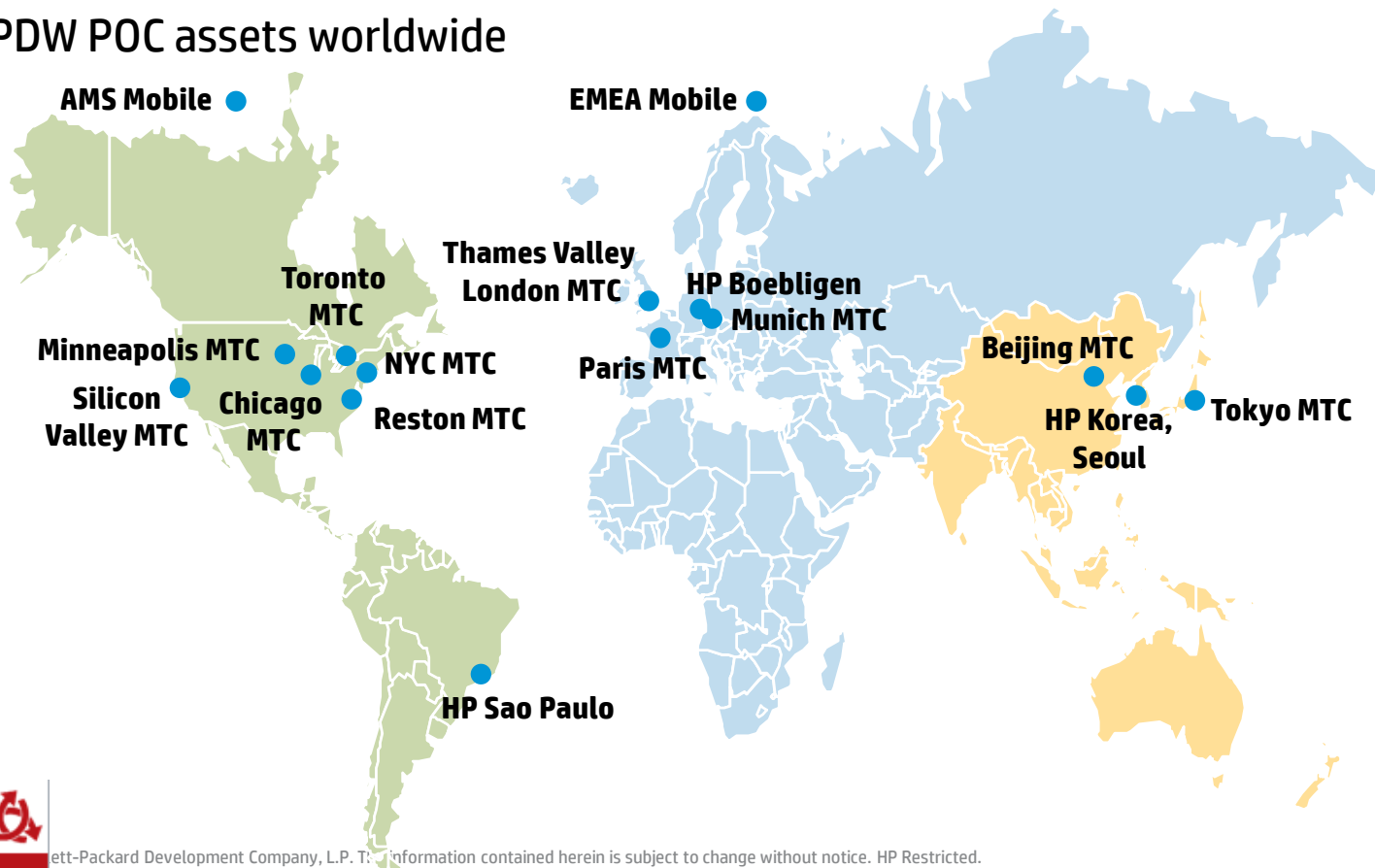| Migration Analyzer	**Conduct detailed database Assessment**
Schema Converter	**Migrate the Database Schema**
Data Migrator	**Migrate the Data**
Migration Tester	**Test the Migrated Database**

HP and Microsoft PDW demo/POC units

Current PDW POC assets worldwide

AMS Mobile

EMEA Mobile

Thames Valley London MTC

Toronto MTC

HP Boebligen

Munich MTC

Minneapolis MTC

Beijing MTC

Silicon Valley MTC

Chicago MTC

NYC MTC

Paris MTC

Reston MTC

HP Korea, Seoul

Tokyo MTC

HP Sao Paulo

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Pointers – Where to find more information

Links

HP Converged Systems for Microsoft SQL Server
   www.hp.com/go/sql

HP Consulting Services for Microsoft SQL Server
   www.hp.com/services/sql

Contacts

- EG France
  - Fabrice Vugier
  - Jérôme Caron
  - Laurent Holka
- Portfolio WW
  - Philippe Blondeaux

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