ガートナー社Critical Capabilities Teradata Vantageの評価解説

INVEST IN ANSWERS.

今こそ、価値ある「**答え**」を手に入れよう

日本テラデータ株式会社
ジェネラル・ソリューション事業部
2022年1月16日

from Gartner on November 14th of 2021

Critical Capabilities

for Cloud Database Management Systems for Analytical Use Cases

ガートナー社によるCloudデータ分析基盤（アナリティクス） 5 製品を比較した評点

	Amazon Redshift (Amazon Web Serice)	Lakehouse Platform (Databricks)	Azure Synapse (Microsoft)	Data Cloud (Snowflake)	Vantage (Teradata)
100点満点で？	**69.3**	**69.3**	**70.4**	**69.1**	**88.7**
Advanced Analytics	3.4	3.8	3.9	3.0	4.8
Automated Perf Tuning/Optimization	3.7	3.2	3.4	3.5	4.4
Distributed Access	3.6	3.5	3.9	3.2	4.8
Dynamic Elasticity	4.0	3.5	3.5	5.0	3.8
High-Speed Processing and Ingest	3.6	4.6	3.6	3.4	4.4
Multi/Intercloud/Hybrid Deployment	2.5	3.5	3.2	3.4	4.7
Performance Monitoring and Admin	3.3	3.0	3.0	3.8	4.1
Workload Management	3.5	3.1	3.3	3.0	4.9
Financial Governance	3.6	3.0	3.9	2.8	4.0

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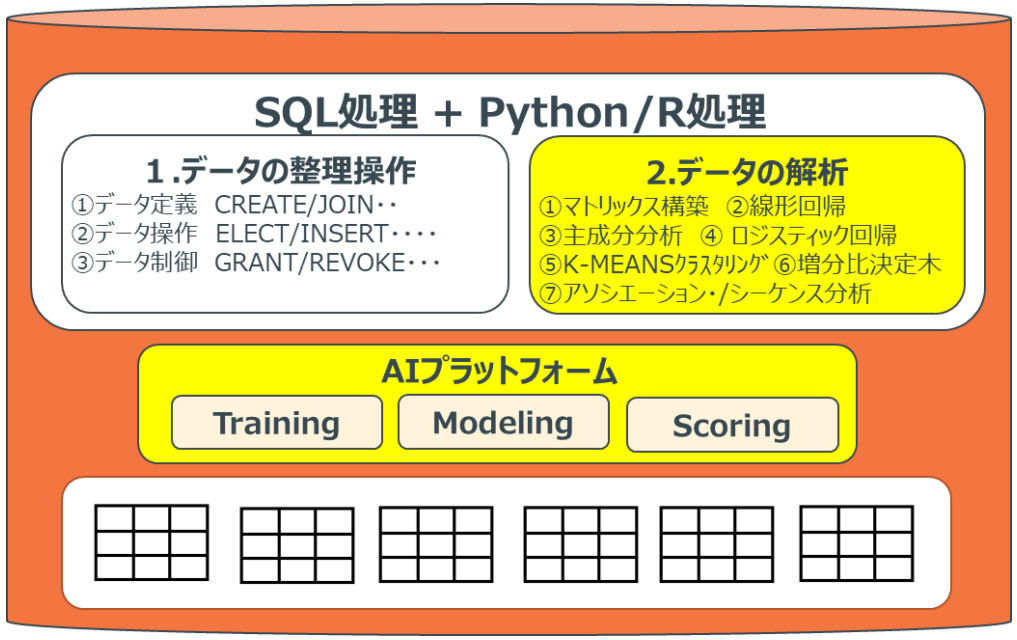
Advanced Analytics（1/2）

The product's ability to perform advanced analytic operations within the dbPaaS. We evaluate what functionality is offered in the current version of the product and what functionality is used by customers.In addition, the depth and variety of available AI/ML algorithms is taken into consideration.

Teradata
（Vantage）
"4.8"

～豊富な解析機能～

- Python/R/SAS言語でVantage内データを高速ハンドリング
- Vantage内の関数で解析処理
- モデルをVantage内でスコアリング



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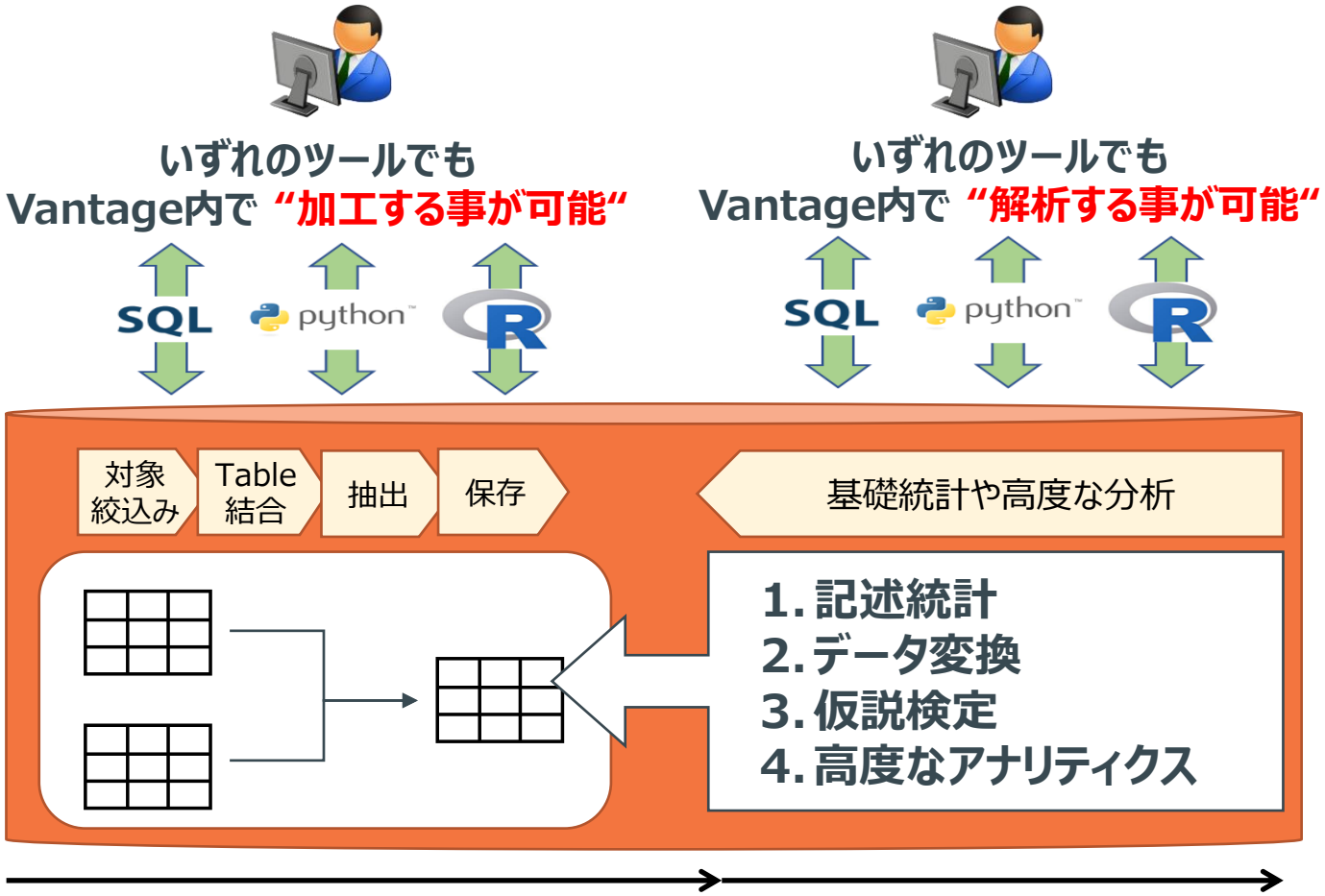
Advanced Analytics（1/2）

ポイント＝データ解析作業の効率化

“フロントはお好みのツール“ を使って、**”処理はDWH内で高速に”** 実行



①.R/PythonおよびJupyterHubのサポート拡張
・クライアントにライブラリーをインストールするだけ（無償提供）

②.Vantage Analytics Library（VAL)のリリース
・Vantageにライブラリーをインストールするだけ（無償提供）

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Distributed Access

The ability to access data outside of the internal storage of a database management system. This includes products that can optimize access to outside storage through sharing processing or reducing data transfer.

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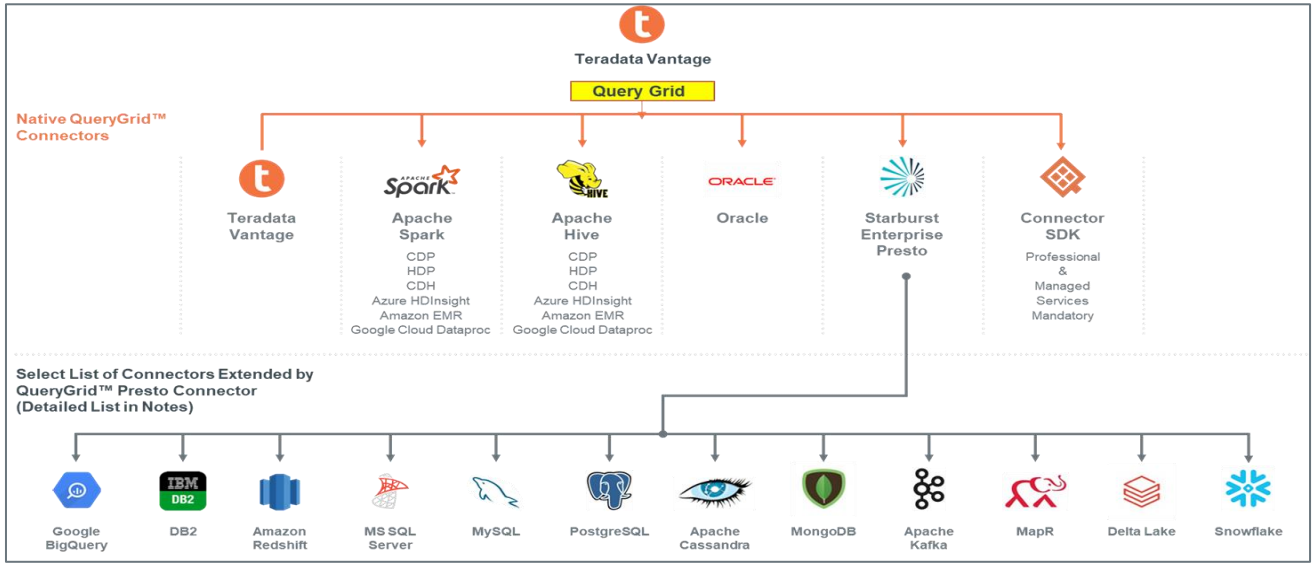
～豊富なアクセス機能～

- 外部ストレージへのアクセス（NOSアクセス機能でRead＆Write）
  クラウド：AWS、Azure、Google/オンプレ：日立、NetApp、DELL
- 外部データベースへのアクセス（QueryGrid ＆ Presto）

<データ仮想化としてもご利用可能です>



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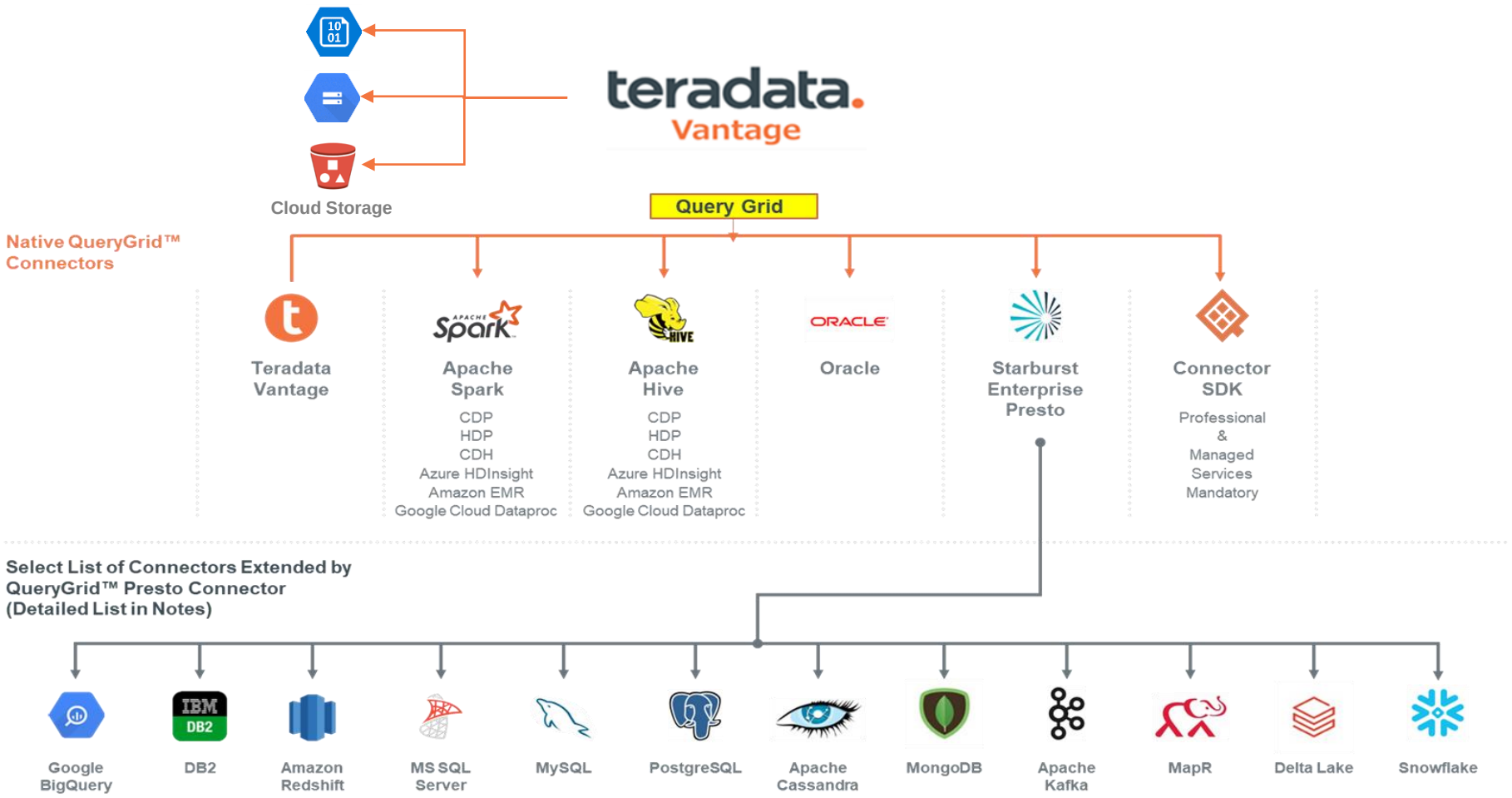
Distributed Access

ポイント＝DWH+データ仮想化基盤として

Cloud Storage、Hadoop、DWH、データベースのデータを **“Vantageからハンドリング“**



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Workload Management

The ability to perform different types and sizes of workloads simultaneously while enforcing or extending policy-based resource limits; handle varying and conflicting workloads while optimizing response times; and prioritize the workloads to meet policy-defined service levels.

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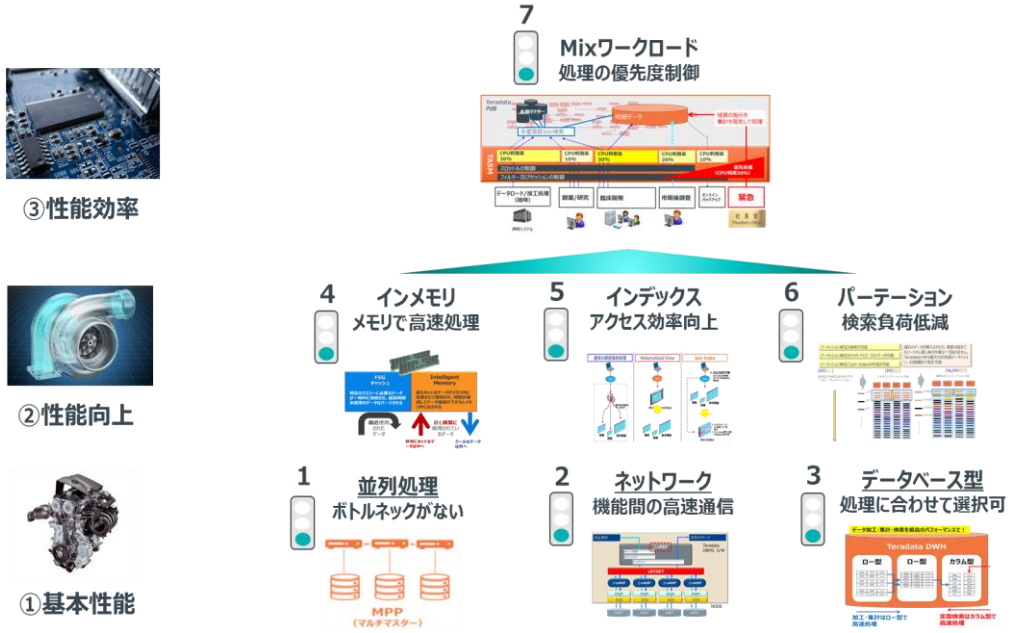
（Vantage）
“4.9”

～性能を担保する豊富な機能～

- 性能効率：Mixワークロード
- 性能改善：インメモリ/Joinインデックス/マルチレベルパーテーション
- 基本性能：マルチマスターMPP/BYNET/ロー＆カラムナー



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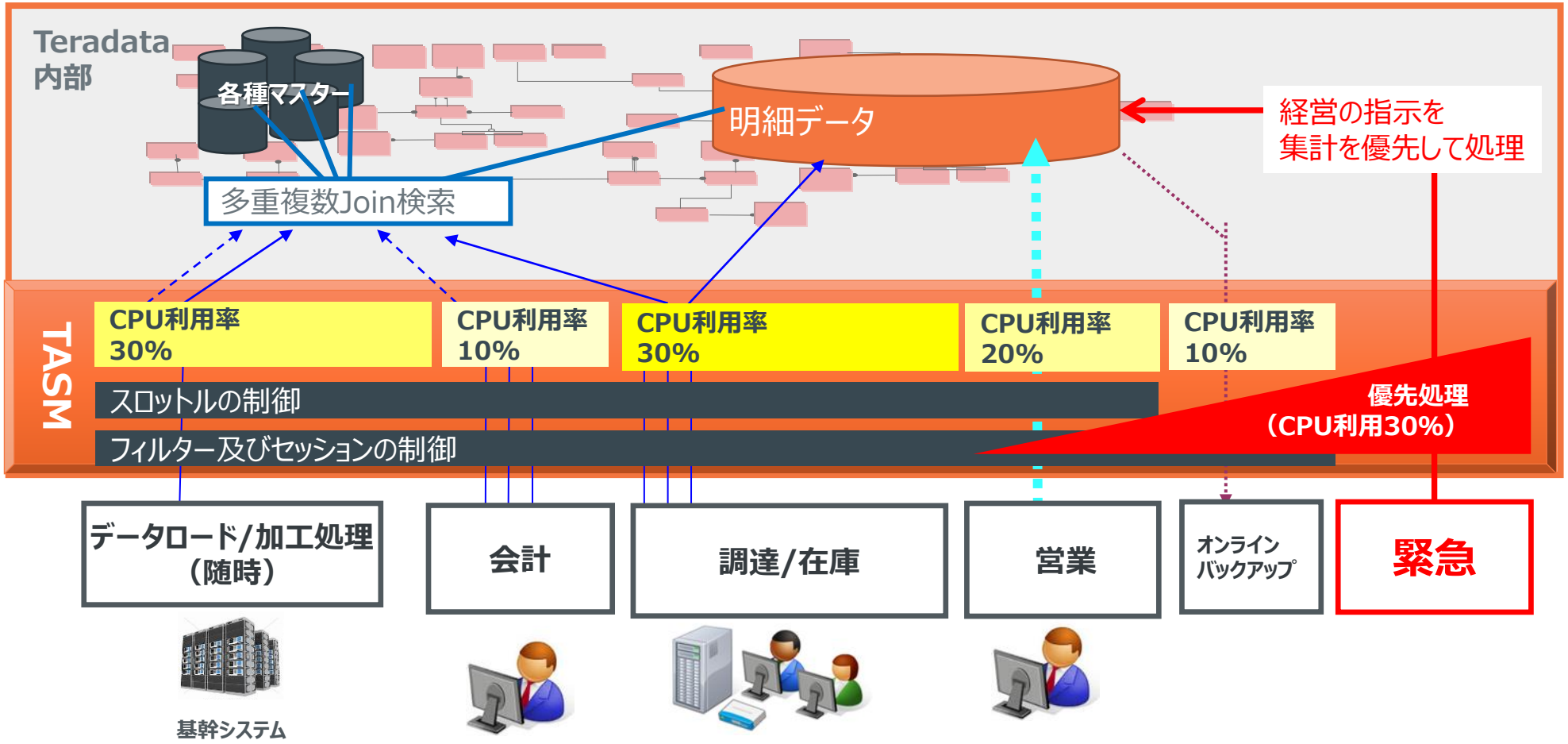
Workload Management

ポイント＝処理優先度の最適化

ワークロードを監視・制御する事で現有リソースを必要な処理に割り当て**”最適に処理”**



ワークロード設定の容易性と設定結果の可視化

- グラフィカルなUIで誰でも簡単にワークロードの設定が可能
- 設定した内容で運用した結果を、ヒートマップで分かり易く可視化
- ワークロードの設定内容はダイナミックに設定変更が可能

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Financial Governance

The ability to forecast, budget usage, and monitor and control costs by throttling, workload or user prioritization or other means.
It can include governing types and numbers of resources used and recommending and implementing less costly storage strategies.
Tools for modeling costs and blended pricing models facilitate this capability.

Teradata
（Vantage）
“4.0”

～性能を担保する豊富な機能～

- 性能効率：Mixワークロード
- 性能改善：インメモリ/Joinインデックス/マルチレベルパーテーション
- 基本性能：マルチマスターMPP/BYNET/ロー＆カラムナー

人数/用途が増えても
改善する手段が豊富である

利用増 ≒ コスト増
（経済的）

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Thank you.

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製品比較の前提

❑ 参考レポート【Critical Capabilities ガートナー社2021年12月14日リリース)

1. Magic Quadrant for Cloud Database Management Systems.
2. Critical Capabilities for Cloud Database Management Systems for Operational Use Cases
3. **Critical Capabilities for Cloud Database Management Systems for Analytical Use Cases.**

This evaluates particular cloud DBMS products provided by the vendors in the Magic Quadrant for their suitability to support four analytical use cases, using nine core capabilities.

～業務DWHではなく、データ解析基盤の比較です～

❑ 比較項目：9

1.Advanced Analytics 2.Automated Perf Tuning/Optimization 3.Distributed Access 4.Dynamic Elasticity
5.Financial Governance 6.High-Speed Processing and Ingest 7.Multi/Intercloud/Hybrid Deployment
8.Performance Monitoring and Admin 9.Workload Management

❑ 比較製品：17

1.Alibaba Cloud (AnalyticDB for PostgreSQL) 2.Amazon Web Services (Amazon Redshift) 3.Cloudera (Cloudera Data Platform)
4.Couchbase (Couchbase) 5.Databricks (Lakehouse Platform) 6.Exasol (Exasol) 7.Google (Google BigQuery)
8.HUAWEI CLOUD (GaussDB(DWS)) 9.IBM (IBM Db2 Warehouse on Cloud) 10.InterSystems (InterSystems IRIS)
11.MariaDB (SkySQL) 12.MarkLogic (MarkLogic Data Hub Service) 13.Microsoft (Azure Synapse Analytics)
14.Oracle (Autonomous Data Warehouse) 15.SAP (SAP Data Warehouse Cloud) **16.Snowflake (Data Cloud)** **17.Teradata (Vantage)**

❑ 評点：1.0-5.0

1 = Poor or Absent: most or all defined requirements for a capability are not achieved
2 = Fair: some requirements are not achieved
3 = Good: meets requirements
4 = Excellent: meets or exceeds some requirements
5 = Outstanding: significantly exceeds requirements

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- SAP U.K., Principal Consultant, Global Hana Centre of Excellence, 4 years
- Teradata, Managing Consultant, 11 years

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Critical Capabilities Definition

	Critical Capabilities	Content
1	Advanced Analytics	The product's ability to perform advanced analytic operations within the dbPaaS. We evaluate what functionality is offered in the current version of the product and what functionality is used by customers. In addition, the depth and variety of available AI/ML algorithms is taken into consideration.
2	Automated Perf Tuning/Optimization	The ability to optimize performance for queries, transactions and workloads to meet performance SLAs. This can include the availability of performance-enhancing features.
3	Distributed Access	The ability to access data outside of the internal storage of a database management system. This includes products that can optimize access to outside storage through sharing processing or reducing data transfer.
4	Dynamic Elasticity	The ability to easily scale both up and down based on policy in response to changing workloads or user specifications, to deliver predictable cost and performance against SLAs when confronted with workload variability.
5	Financial Governance	The ability to forecast, budget usage, and monitor and control costs by throttling, workload or user prioritization or other means. It can include governing types and numbers of resources used, and recommending and implementing less costly storage strategies.Tools for modeling costs and blended pricing models facilitate this
6	High-Speed Processing and Ingest	The ability to continuously process and load data from multiple endpoints and in different formats (including in-stream computations), and to durably write and make data quickly available.
7	Multi/Intercloud/Hybrid Deployment	The ability to deploy and operate analytic and operational activities across one or more cloud environments and on-premises.
8	Performance Monitoring and Admin	This capability includes resource utilization, database activity monitoring, role-based activities, security alerts and intelligent advisors in distributed, multicloud and hybrid deployments.
9	Workload Management	The ability to perform different types and sizes of workloads simultaneously while enforcing or extending policy-based resource limits; handle varying and conflicting workloads while optimizing response times; and prioritize the workloads to meet policy-defined service levels.

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