

Moving beyond 9.3

Key technology drivers and related investment areas

Andreas Diggelmann, VP R&D, Planning, Operations & Strategy.



THE
POWER
TO KNOW®

5 GOALS



5 GOALS FOR SAS R&D

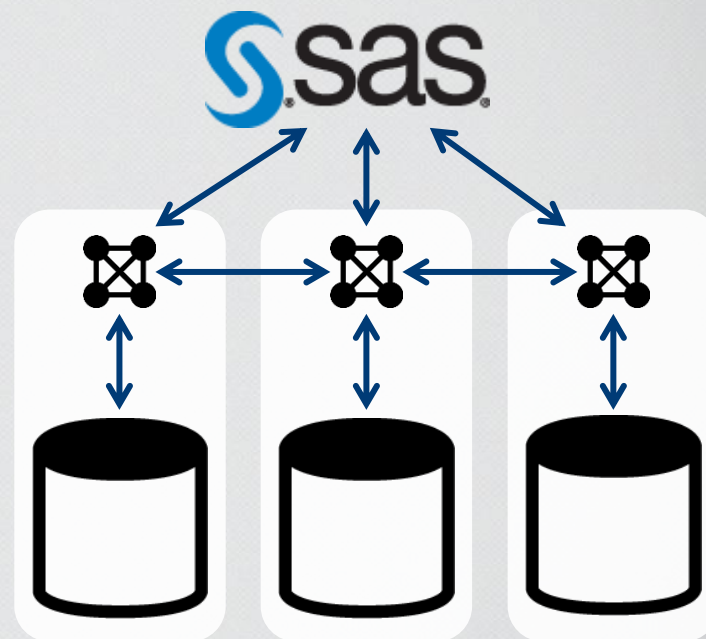
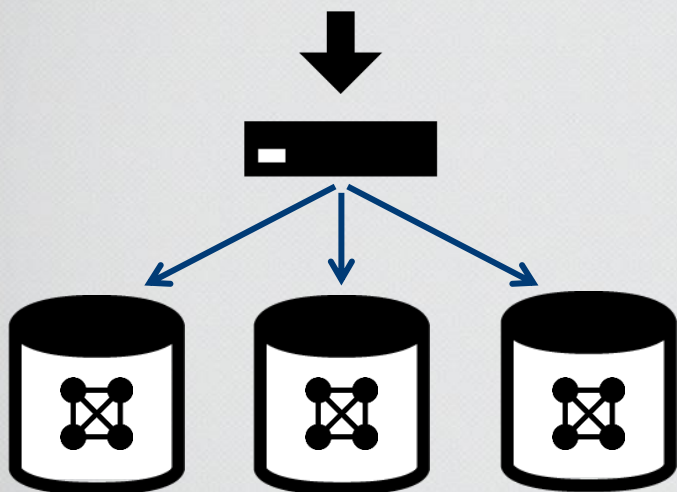
01.
**High-
Performance
Computing**

02.
**Process
Automation**

03.
**Business
Visualization**

04.
**Data
Management**

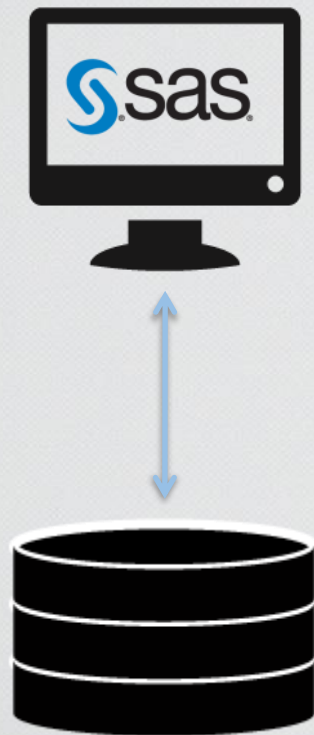
05.
SaaS



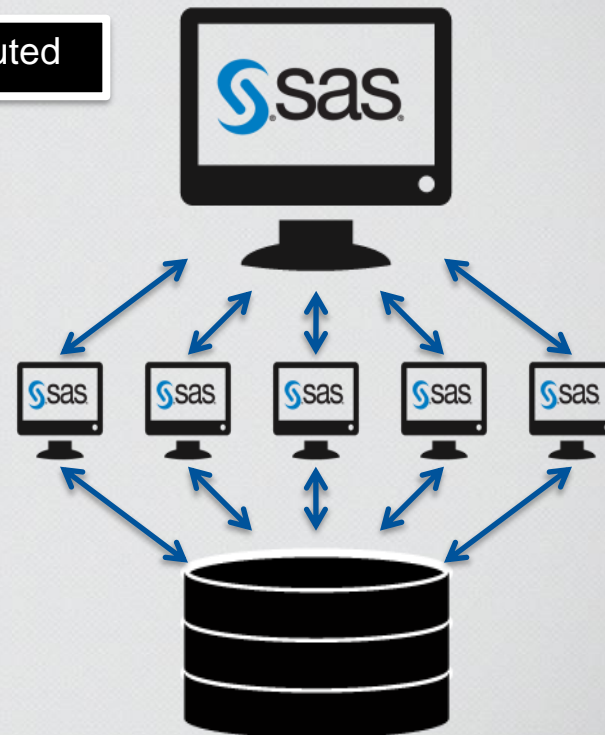
Divide and Conquer

"Shared Storage"

Traditional

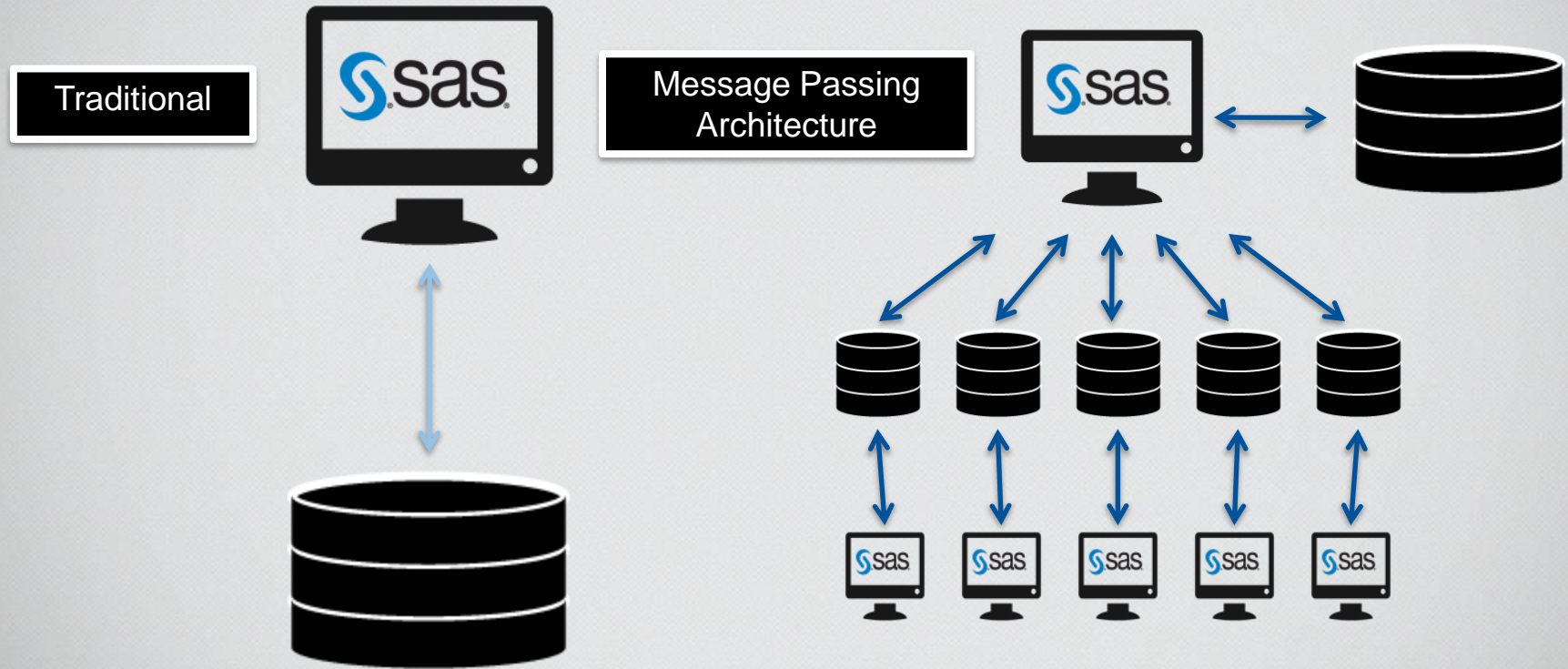


Distributed



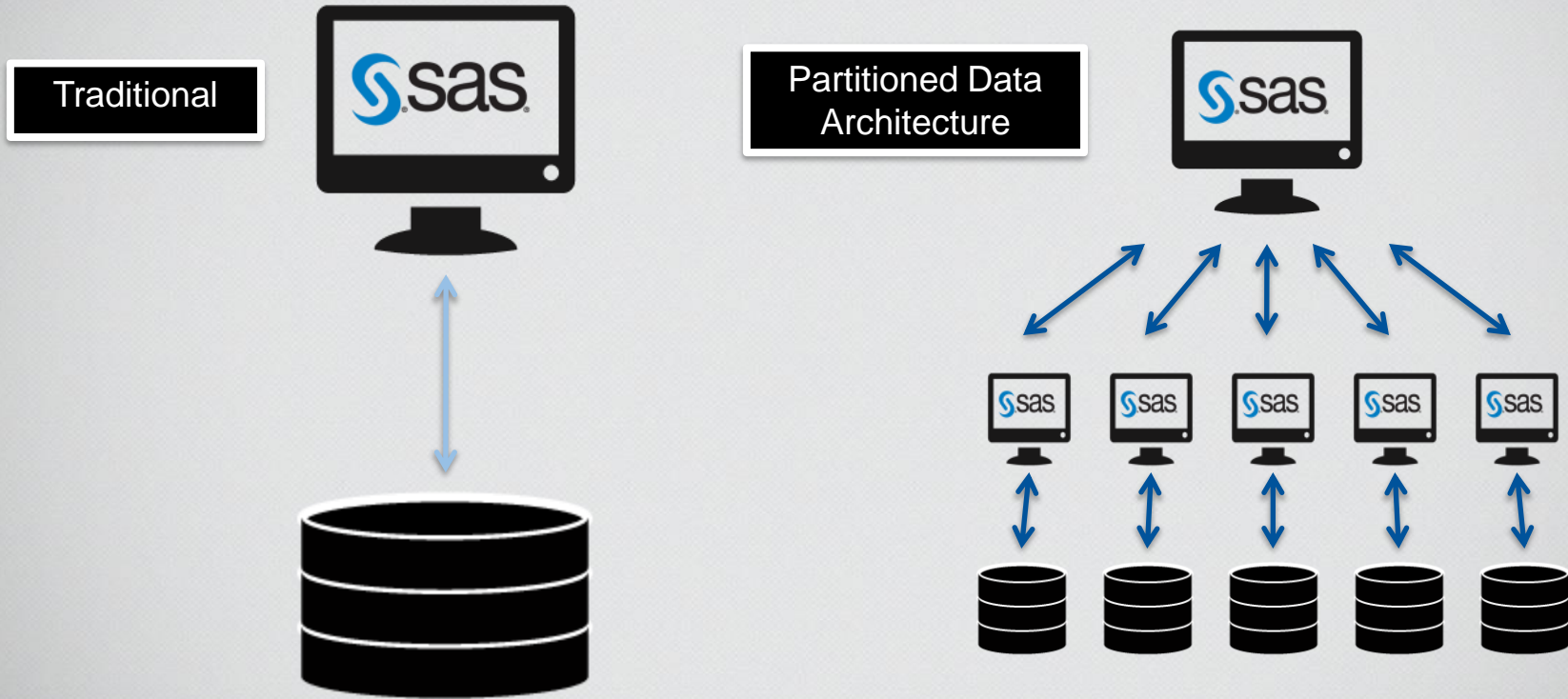
Divide and Conquer

"Move Data to Compute"

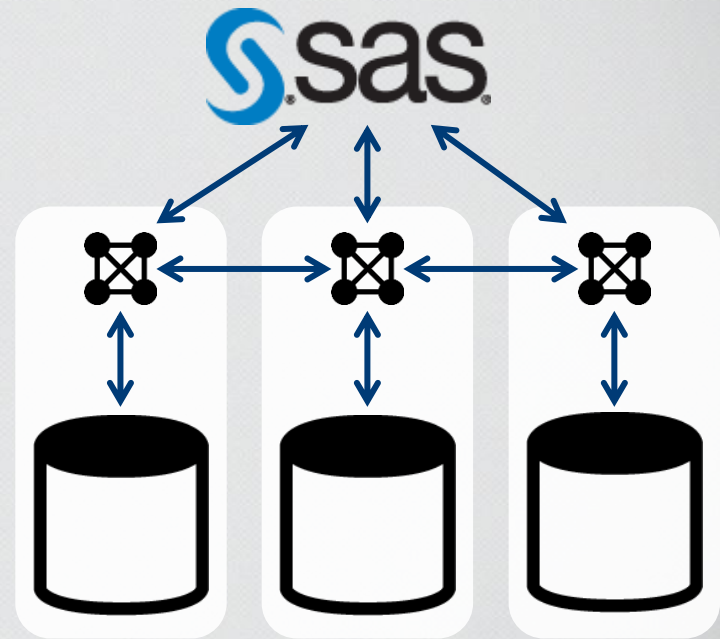
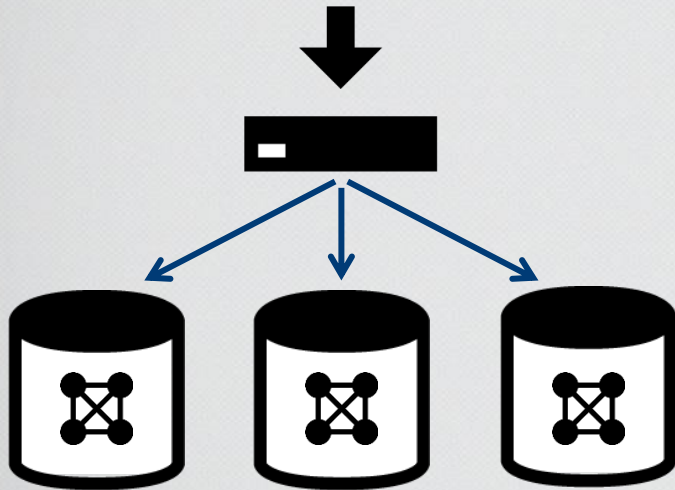


Divide and Conquer

"Move Compute to Partitioned Data"

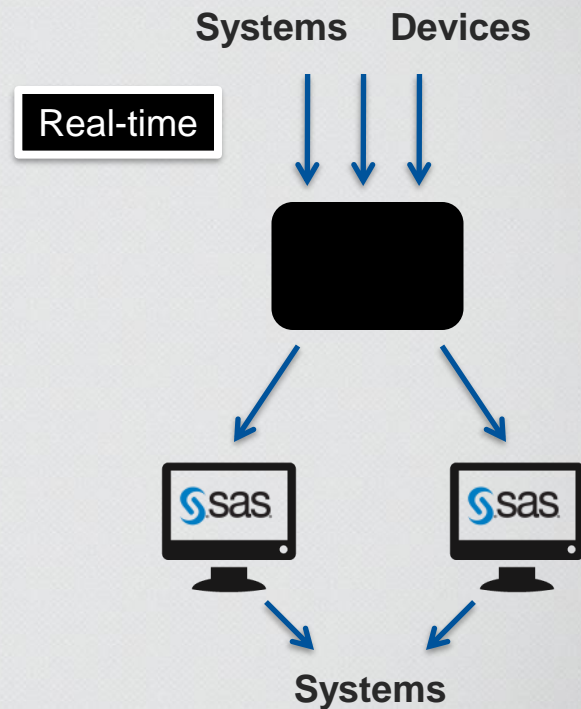
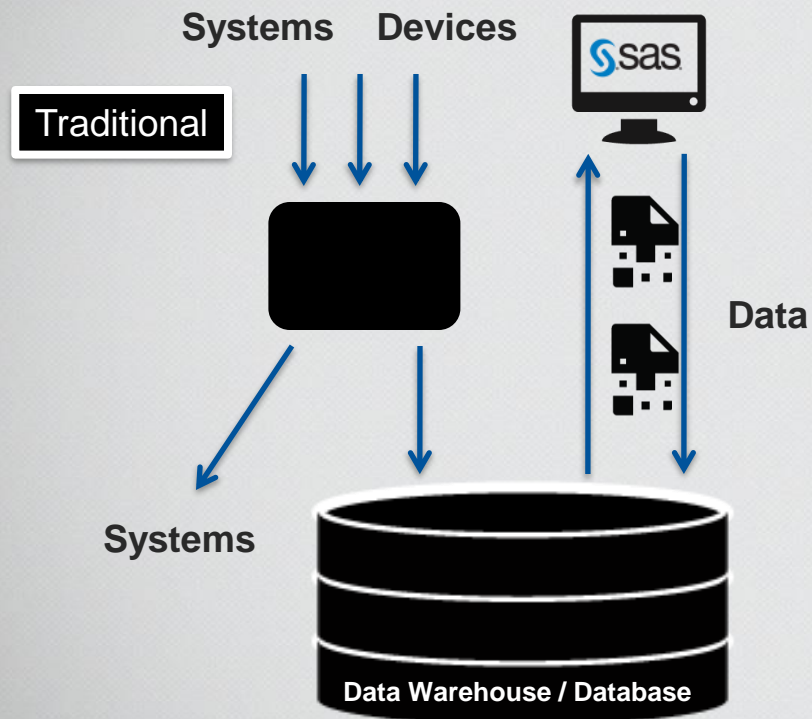


In-DB vs. Alongside-DB



Real-Time/Streaming/CEP

"Adding Present to Past/Future"



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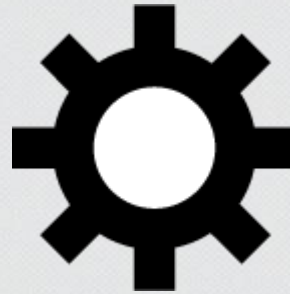
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Process Automation



1. Workflow

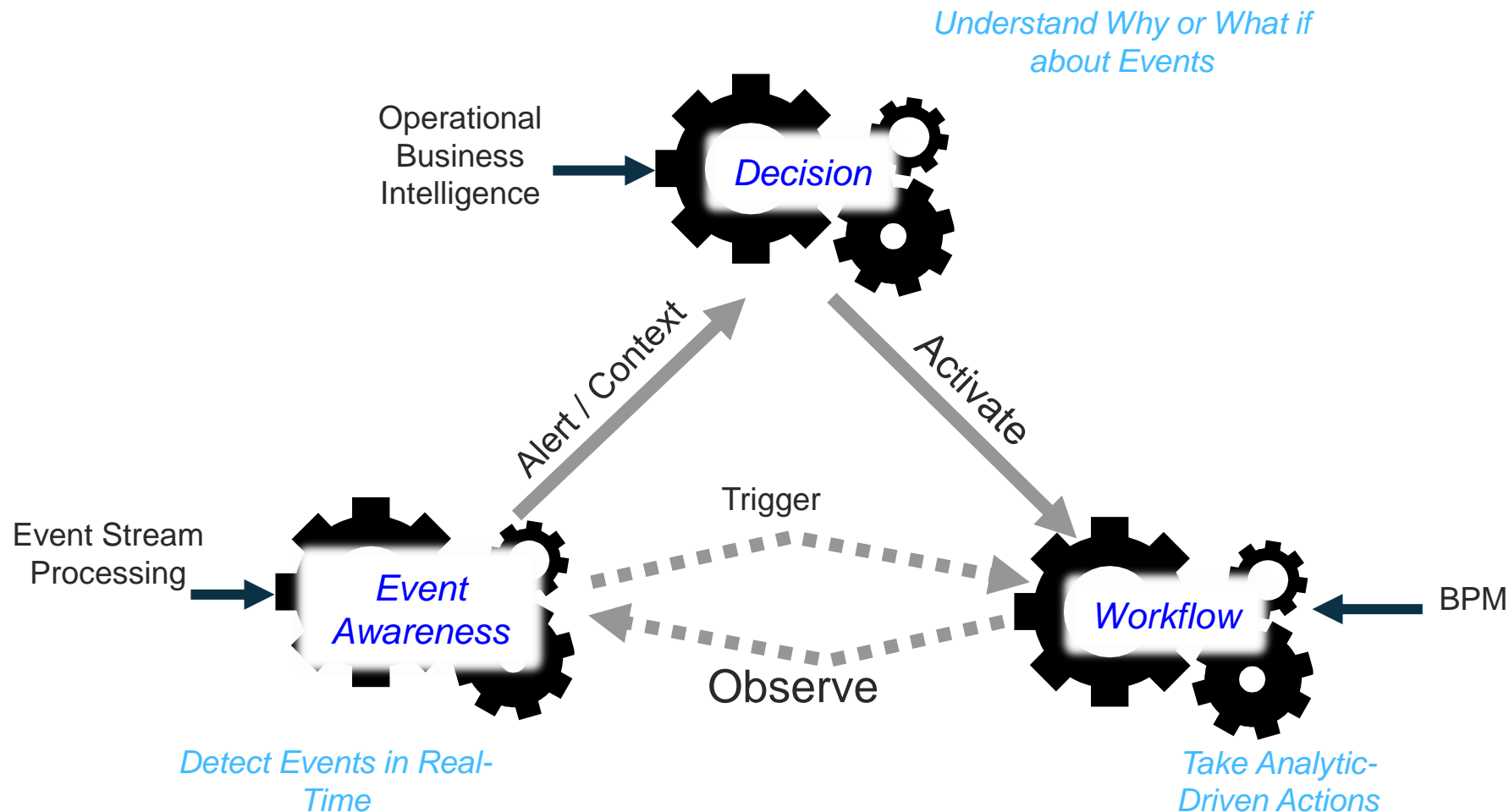


2. Rules



3. Quality

Overview: Rules, Workflow, and Analytics



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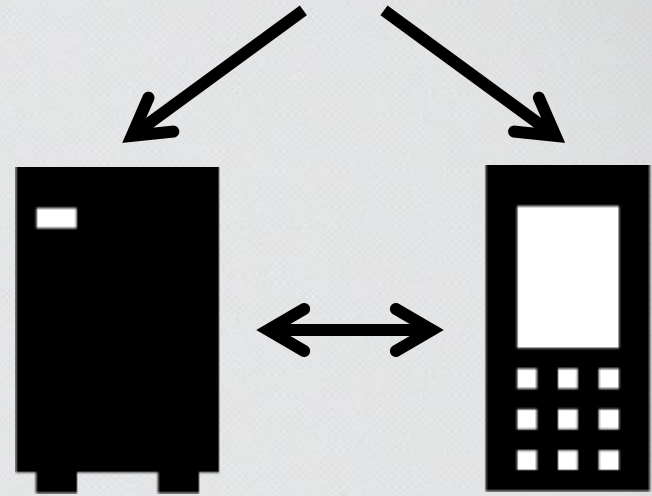
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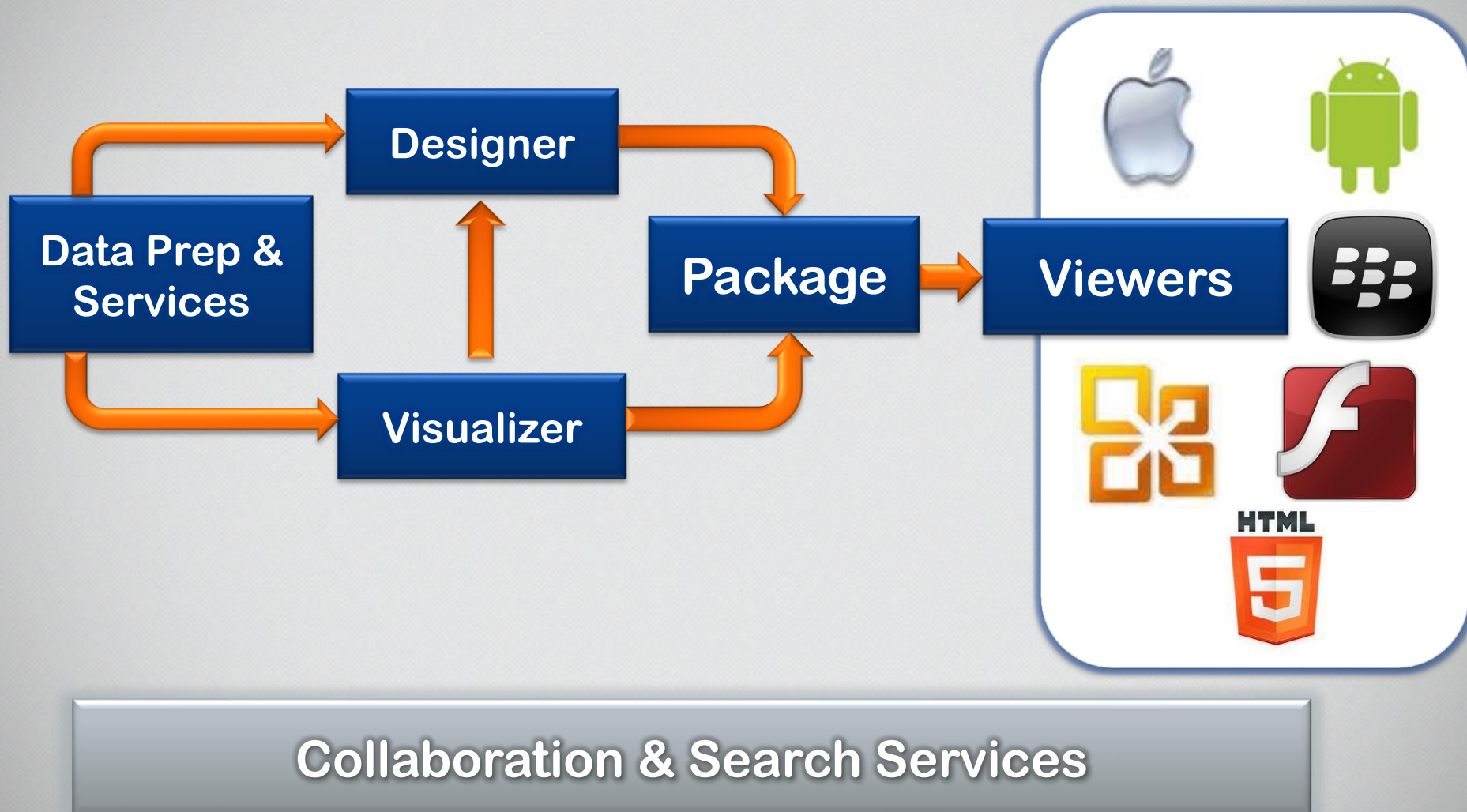


1. Discovery



2. Delivery

Next Generation BI Framework



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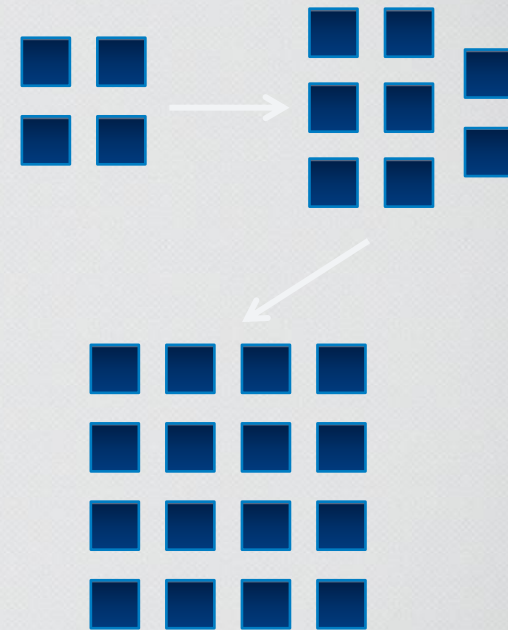
Explosion of Structured Data

2009 — 2011



Currently, tech info
doubles every **2 YEARS**.

Jan 1 — Jan 8



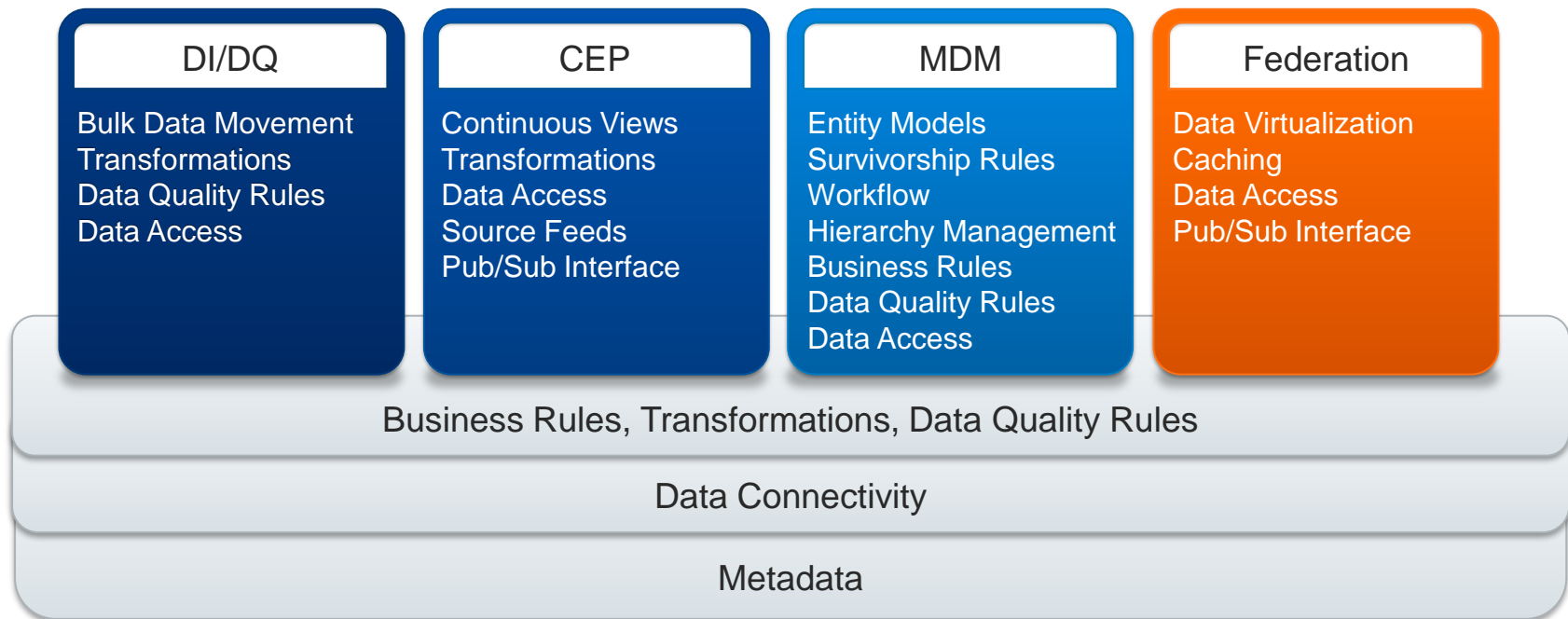
It is forecasted to double
every **3 DAYS**.

Explosion of Unstructured Data



cr. Paul Butler, Facebook

Big Data & DM Architectures



Data Management Platform

Data Integration Toolbox

Data Services SOA

Metadata Management & Metadata Exchange

Data Integration Tools

ETL/ELT

Data Federation

Data Exploration

Data Profiling

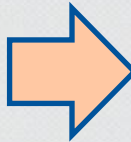
Metadata
Management

Data Quality

Master Data
Management

Data Access

Administration, Scheduling, Versioning, Deployment



Data Management Platform

Metadata Exchange and Collaboration

Data Quality

- Data Exploration
- Data Profiling
- Entity Resolution
- Business Rule Creation and Management
- Verification, Normalization, Standardization, Transformation
- Data Monitoring
- Hierarchy Management
- Data Enrichment

Data Integration

- Data Transformation
- ETL/ELT
- Data Synchronization
- Data Migration
- Analytic Data Preparation
- Business Rule Execution
- Merging and Clustering

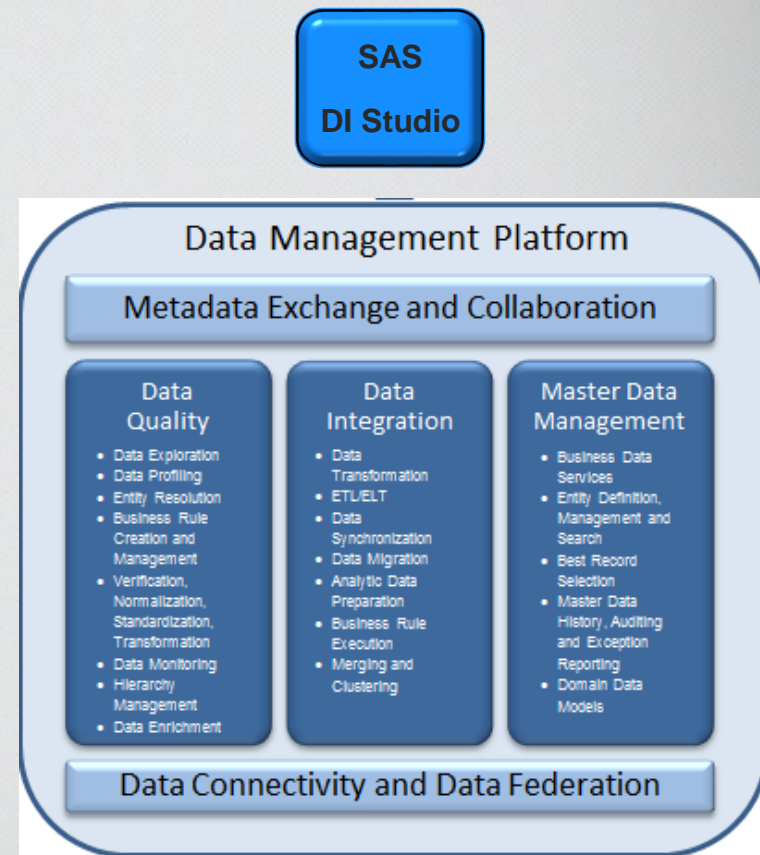
Master Data Management

- Business Data Services
- Entity Definition, Management and Search
- Best Record Selection
- Master Data History, Auditing and Exception Reporting
- Domain Data Models

Data Connectivity and Data Federation

Long Term Vision

- SAS DI Studio
 - » Perceived as 'Visionary' technology by Analysts and Customers.
 - » Enterprise class data integration capabilities
 - » Direct access to the 'power' of BASE SAS
- Moves into Data Management Platform
 - » Single environment for
 - » Data Quality
 - » Data Integration
 - » Master Data Management
 - » Workflow
 - » Parallel Processing Orchestration
 - » Conditional Execution
 - » Enhanced ELT
 - » Data Dictionary



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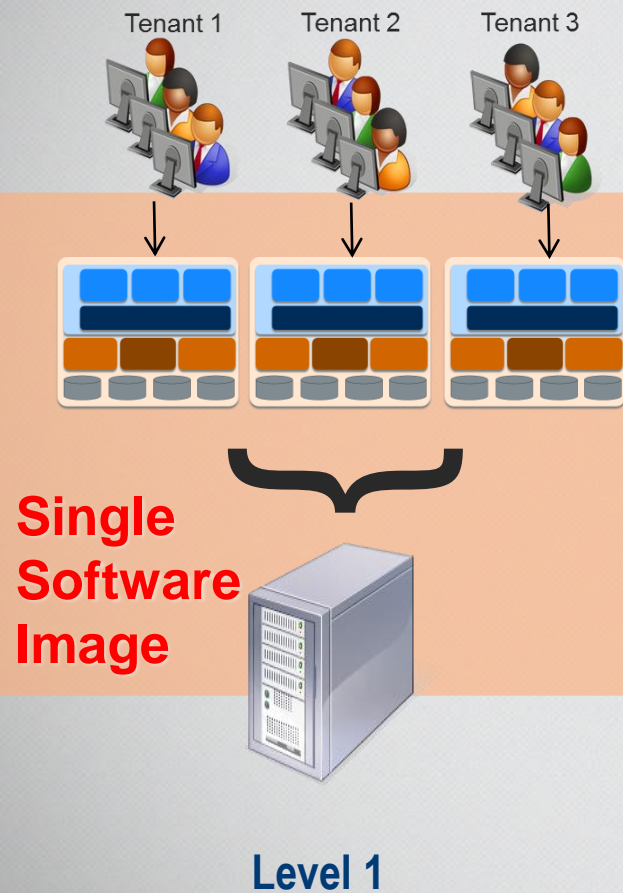
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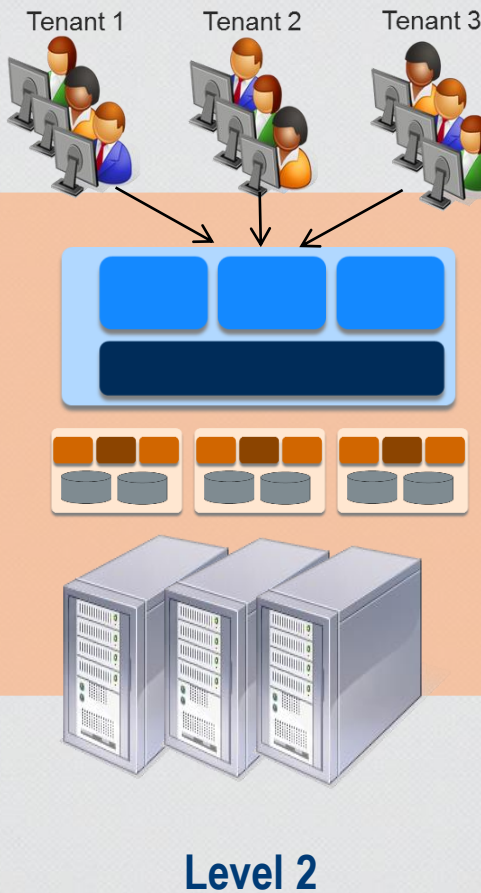
05.
PaaS / SaaS

SaaS multi-tenancy models

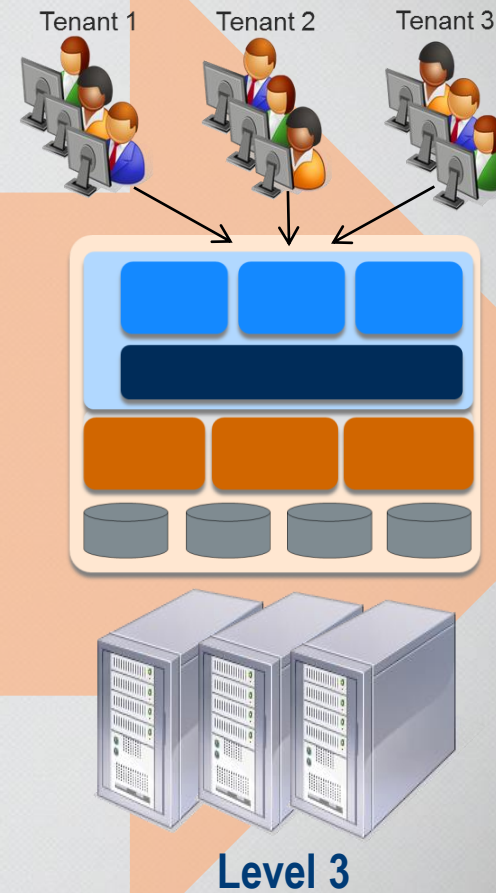
Separate (Virtual) Infrastructure



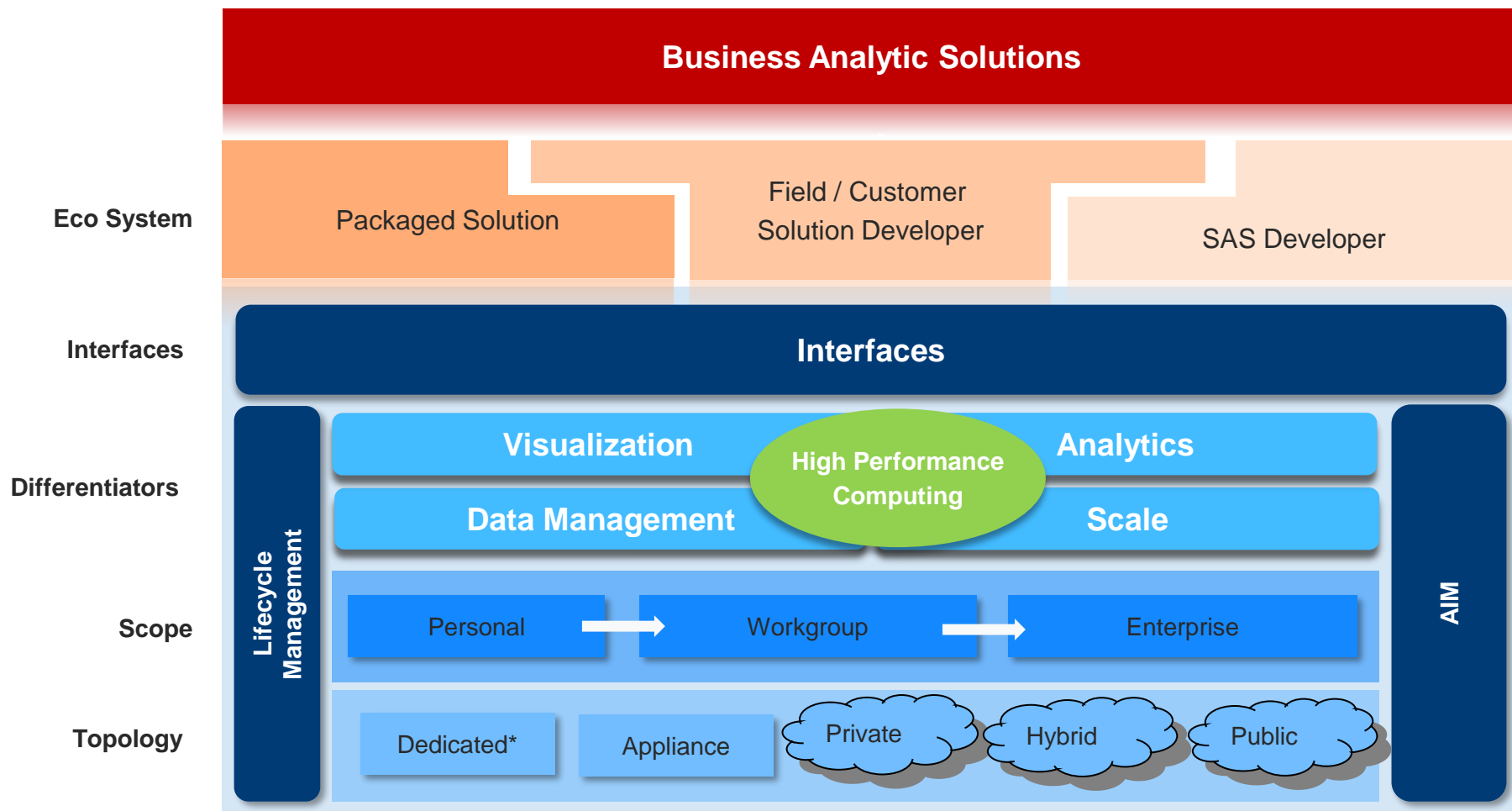
Hybrid: Shared apps, separate SAS servers



Full Multi-Tenancy



Platform as a Service



Cloud Environment

Subscriber Portal

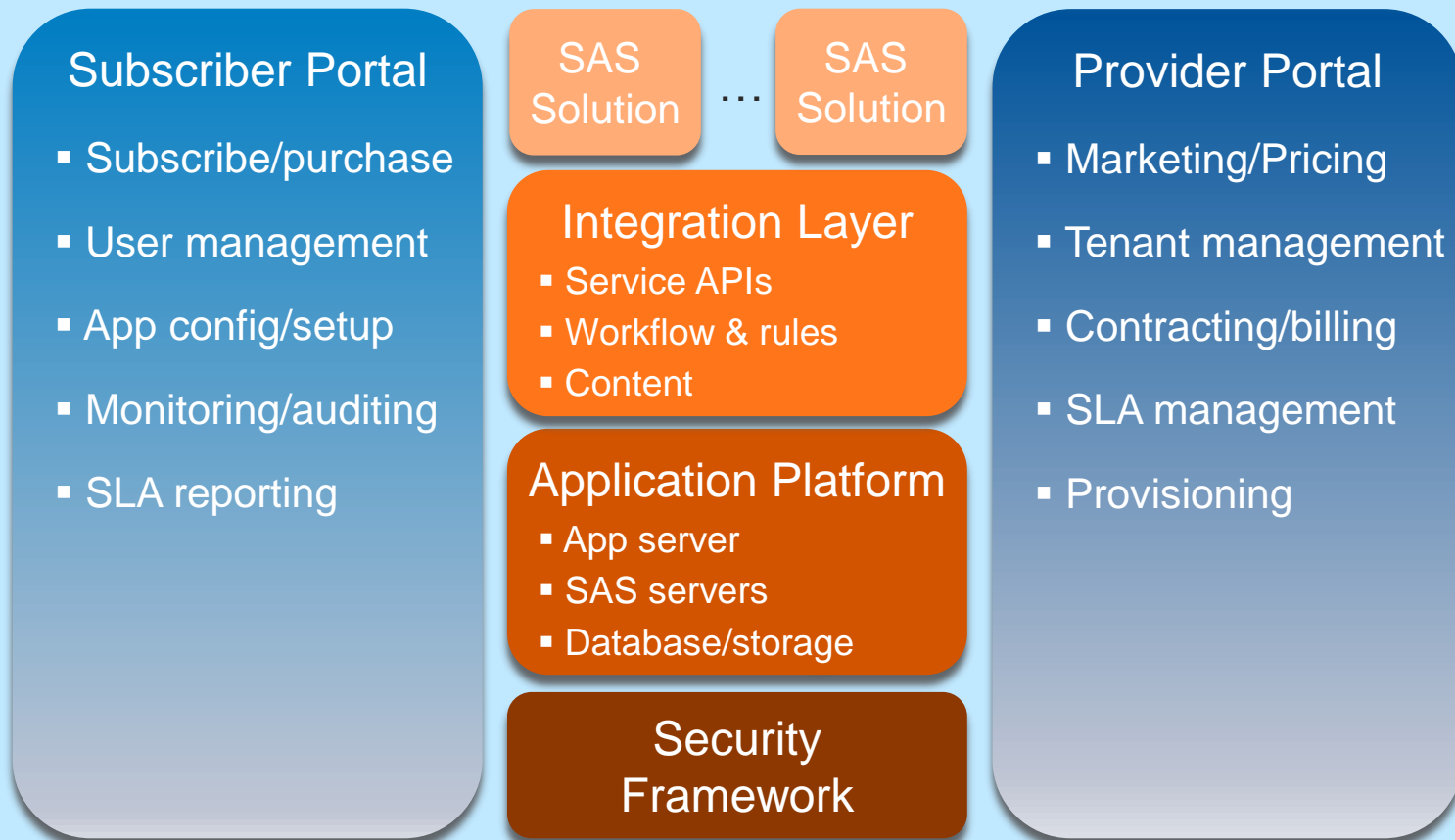
- Subscribe/purchase
- User management
- App config/setup
- Monitoring/auditing
- SLA reporting

Provider Portal

- Marketing/Pricing
- Tenant management
- Contracting/billing
- SLA management
- Provisioning

Security
Framework

Cloud Environment + SaaS



Cloud + PaaS (AppDev Cloud)

Browser-based IDE

Eclipse IDE

PaaS (AppDev Cloud)

App Lifecycle Management

- Versioning
- Testing
- Deployment
- Monitoring
- Promotion

Integration Layer

- Service APIs
- Workflow & rules
- Content

Application Platform

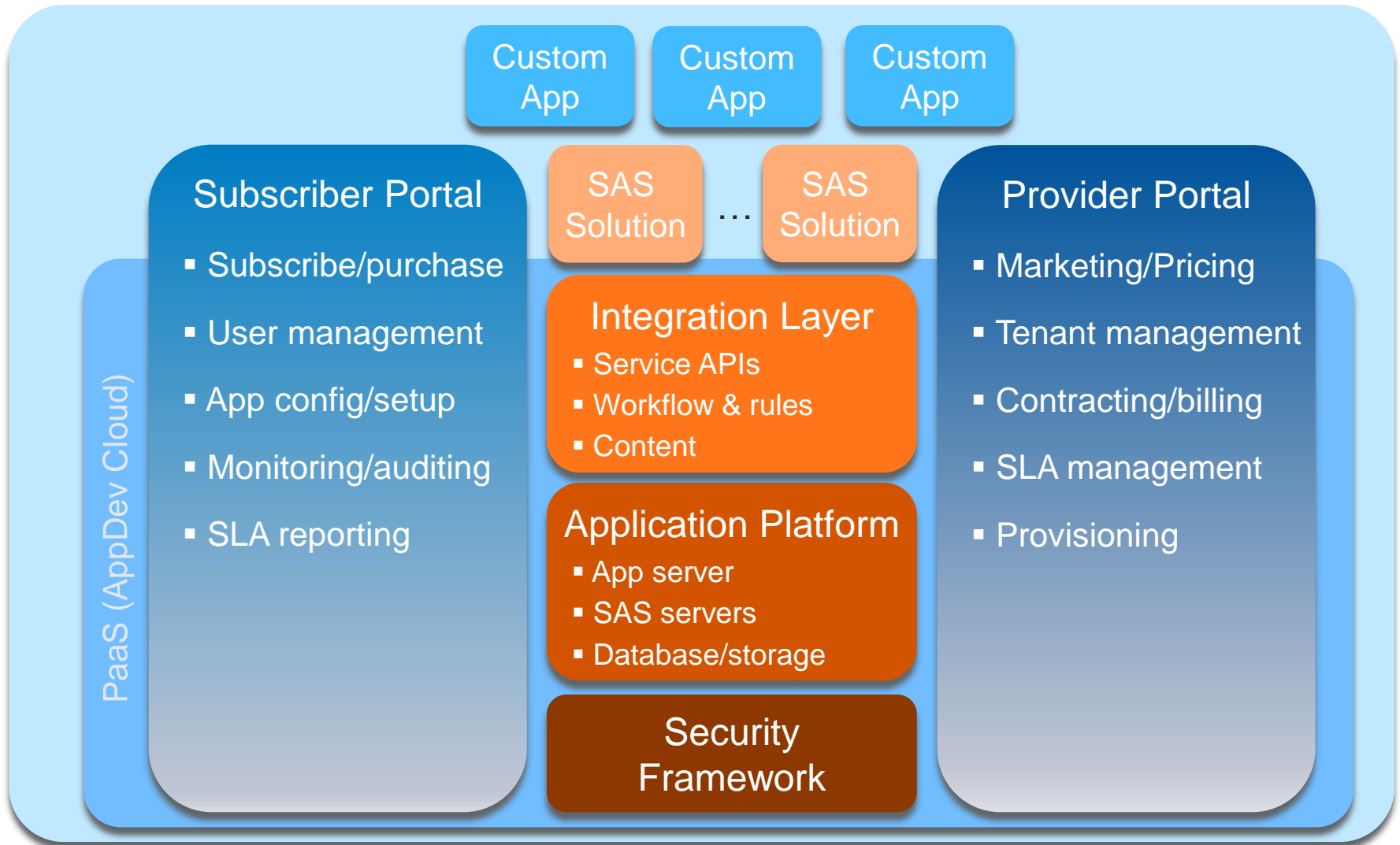
- App server
- SAS servers
- Database/storage

Security Framework

SAS App Store

- Apps
- Workflows
- Customizing

Custom apps running on the cloud



Vielen Dank für Ihre Aufmerksamkeit.



Andreas Diggelmann

SAS Institute Inc.

100 SAS Campus Drive

Cary, NC , USA

eMail: andreas.diggelmann@sas.com

Phone: +1 919 389 46 22

www.sas.de



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