Middleware Modernization: lay the foundation to your digital success
Agenda

1. Why modernize?
2. What middleware capabilities would a digital enterprise need?
3. How do you attain these capabilities?
4. Architecture
5. Platform services
6. People and processes
7. Putting it all together - Wipro’s Digital Integration as-a-Service
Trends driving middleware modernization

What some analysts predict?

By 2020 "Cloud Shift" Will Affect More Than $1 Trillion in IT Spending – Gartner

IaaS, PaaS and SaaS markets to grow at 17%, 10% and 37% respectively through 2020 – Gartner

Speed to Market

Support new business models and revenue streams

Improved Customer Experience; Get closer to customers

Adaptability and Agility
What additional capabilities does an existing platform need?

- Integration Service
- Channel Apps
- Other Consumers
- API Gateway
- System Of Record (EMS)

- Rapid delivery
- Scale dynamically
- Support all integration types
- Enable real-time insights
- Open APIs
- Optimize costs

Delivery by a Digital Integration Competency Center
Transformations needed to deliver those capabilities - the how

The four dimensions of modernization

Architecture
Cloud Native services, Real Time Data Pipeline, In-Memory Data, Streams, APIs

People
Skill all user personas for self-service Integration development CoE for mentioning, coaching

Platform and Supporting Services
Cloud Platforms Deployment Models – Private / Public / Hybrid

Tools and Processes
DevOps tools and processes
Architecture
Key building blocks of the target state

Hybrid Integration Platform
Build Once, Deploy anywhere

API first approach
Managed APIs, RESTful, Consumer Driven Contracts

Cloud Native Services, Microservices principles
Cloud Native services, Choreography for interactions Logs as Streams

Data Distribution
Data Pipelines, Web Enabled Data Bus, In-Memory Data Grids

Events as first class citizens
Govern Events, Provide Ops tooling for runtime event visualization and management

Self – Service enabled
Integration SaaS and Self-service enablement for Integration, APIs, Rules, Processes
An hybrid integration architecture

Hybrid Integration Platform

iPaaS – TIBCO Cloud Integration
Integration Service
Integration Service
Integration Service

In-Memory Data Grid
Event Processing, Stream Processing

Integration Microservices – TIBCO BW 6 / TIBCO BE CE
Integration Service
Integration Service
Integration Service

Integration Platform Service
Integration Platform Service

Integration Service
Integration Service

ESB – On Premise
Platform and supporting services
Platform services

**Platform Console, APIs, CLI, Plug-Ins**
- Ref Data Management
- Custom Connectors
- Templates and Accelerators
- Logs, Visibility
- Monitoring
- Resiliency
- Load Balancing
- Distributed Config Management
- Service Discovery

**Platform APIs, Plug-Ins for CI/CD tools, CLI**

**Developer Experience**
- Real Time Insight Accelerators
- Dashboard templates
- Custom Connectors
- Integration process templates

**Operations**
- Logs as Streams
- Business Intelligence from Logs
- Augment the Resiliency capabilities of the base PaaS platform

**Microservices frameworks**
- Frameworks that enable the development of cloud-native services

**Automation and DevOps**
- Comprehensive DevOps tooling to automate everything from Environment Provisioning to Release Management

**PaaS Platform**

**API Mgmt.**
- iPaaS
- Intg. Service
- Intg. Service
Transform people and skills
Digital ICC – from a people provider to a platform provider

Integration Competency Center

Platform

LoB

Projects

Demand Managers

Architects / SMEs

Project Managers

App Support

App Dev

Platform Support

Integration

APIs

Process Apps

Platform Support

CoE, Core Services

Machine Learning / Cognitive

IMDG

Stream Processing
Enabling federated delivery

**Self Service Integration**
- Business friendly interface for setting up and updating Business Rules
- Business friendly interface for Data Synchronization and Replication between Data Sources

**Self Service API development**
- API definition out of existing services
- API Composition
- Custom micro flows

**Collaboration**
- Components Exchange
- In-house Open Source

**Federated Governance**
- Automated Review and validation tools
- Existing governance processes augmented and adapted for federated delivery
The modernization roadmap
Modernizing BW 5.X services: options for modernization

1. Lift and Shift to a Cloud IaaS platform
   - Save on hardware cost
   - Potentially increased resiliency – depending on how mature your current infra is

2. Migrate to BW CE and adopt a cloud-native architecture
   - Scale dynamically, End-to-end automation, save cost
   - Leverage the improved REST support, DevOps tooling support

3. Migrate to BW 6
   - Deploy On-Premise or on an IaaS
   - Save cost on hardware, platform support
   - Innovate rapidly, scale dynamically

4. Adopt iPaaS as the strategic platform and deploy to TCI
Modernizing at scale - enablers

- Automated Analysis
  - Tools to automate the analysis of the existing landscape
  - Understand on complexity, dependency

- Fallback Approach
  - Automated fallback to older version if the error rate goes beyond a threshold

- Platform Support for incremental migration
  - Support gradual throttling of load to the new version
  - Automated generation of Router processes that route request to the correct service instance based on the migration approach

- Cloud Adoption Cookbooks
  - Cloud Migration best practices, cookbooks
  - Automated Cloud environment provisioning and service migration tools

- Service Usage Metrics
- Cloud Setup and Migration Automation
- Unified Monitoring – across versions
- Automated Fallback handlers
- Automated Request Routers
- Circuit Breakers
- Integration SaaS
- Data Integration Templates
- Business Rules and Processes

Integration Platform Services

DevOps

API Mgmt.

iPaaS

Intg. Service

Intg. Service

PaaS Platform
Wipro’s Digital Integration as-a-Service
Wipro’s Digital Integration as-a-Service

- Hybrid Integration (Cloud / On-premise)
- API Integration
- Legacy Integration
- Citizen Integration (self-service capability)
- IOT Integration
- B2B / Managed File Transfer Integration
- Microservices Integration
- Cognitive Integration
Wipro’s Digital Integration as-a-Service

Standards based, digital-ready integration platform with plug-and-play common integration components

- Faster integration using built-in marketplace containing ready-to-use APIs and integration components
- 30% reduction in operational costs through simplified integration
- Rapid time to market for new products and services with reduced lead time to production - from months to weeks
Wipro’s Digital Integration as-a-Service

Cloud Application Connectors | Industry Specific API packs
Develop, Customize, Expose and Manage APIs
- Mashery
- TIBCO Cloud Integration

Industry Specific Insight Apps | Dashboard templates
Deliver Insights in Real Time, at Internet scale
- Event Processing
- Stream Processing
- TIBCO ActiveSpaces

Case Management Accelerators | Industry Specific Applications | BAM
Automate Processes, Case Management solutions, Enable Self Service Application creation
- TIBCO ActiveMatrix BPM

Cloud application Connectors | Data Integration Templates | Data Models | Partner Onboarding Selfservice
Integrate Data, Applications, Partners, Devices
- BW Container Edition, 5.x
- TIBCO Cloud Integration
- BusinessConnect
- MFT

Continuous Integration | Continuous Delivery | Monitoring and Management

Services
- Database
- Messaging
- Logging
- Reference Data Store
- Events Hub
- Service Discovery
- Load Balancing
- Configuration Management
- Collaboration
- MFT
Modernization approach

- Assess current state
- Understand Business and Technology drivers
- Identify changes to tooling and processes

- Define Migration roadmap
- Define the Reference Architecture
- Identify changes to tooling and processes

- Create a detailed migration plan
- Map services to Iterations

• Iteratively Migrate the services to the target BW 6 / BW CE / TCI platform
• Retire the old services as the new ones are certified
Thank you for your time

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