

JOURNEY TO CLOUD MARS INC.

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PRESENTER



Chandra S Singh

Delivery Lead for SAP
Cloud Migrations
Accenture, France

Chandra has 20 years of experience in SAP, 16 at Accenture in various Tech Arch, Delivery and Leadership roles

He has been solutioning and delivering SAP cloud migration projects for the last 5 years across Europe

Chandra has a passion for Technology and gets his “kick” from bringing the solution to live and helping customers meet their business goals

ACCENTURE'S EXPERIENCE MOVING FROM HEC TO AZURE

High Level Project Description

- Accenture engaged to help Customer migrate their SAP Data platform from SAP HEC to Azure
- Key driver was to improve operational stability and enable extendable platform on Azure
- Enabled customer to consolidate reporting solutions to single global instance post migration
- Migration of SAP BW & related non-SAP environments to Microsoft Azure Cloud
- First step on their Digital foundation journey and prove that their most performance intensive application works well on Azure
- Optimize TCO and agility in support operations



Project Duration and Size

- 6 Month migration timeline (~150 VMs)
- 3 year managed service for infrastructure and SAP Basis support



KEY HIGHLIGHTS

PROJECT IMPLEMENTATION SCOPE

- Bare Metal HANA blades (S series) – scale out architecture – 16 TB
- ~150 VMs with a combination of SUSE and Windows
- Design and Build of Azure Cloud Foundation
- Migration cutover to be achieved within 24 Hrs
- Fully managed cloud operations including security and operational tooling
- HA/DR to meet their RPO < 15 min and RTO < 24 Hrs

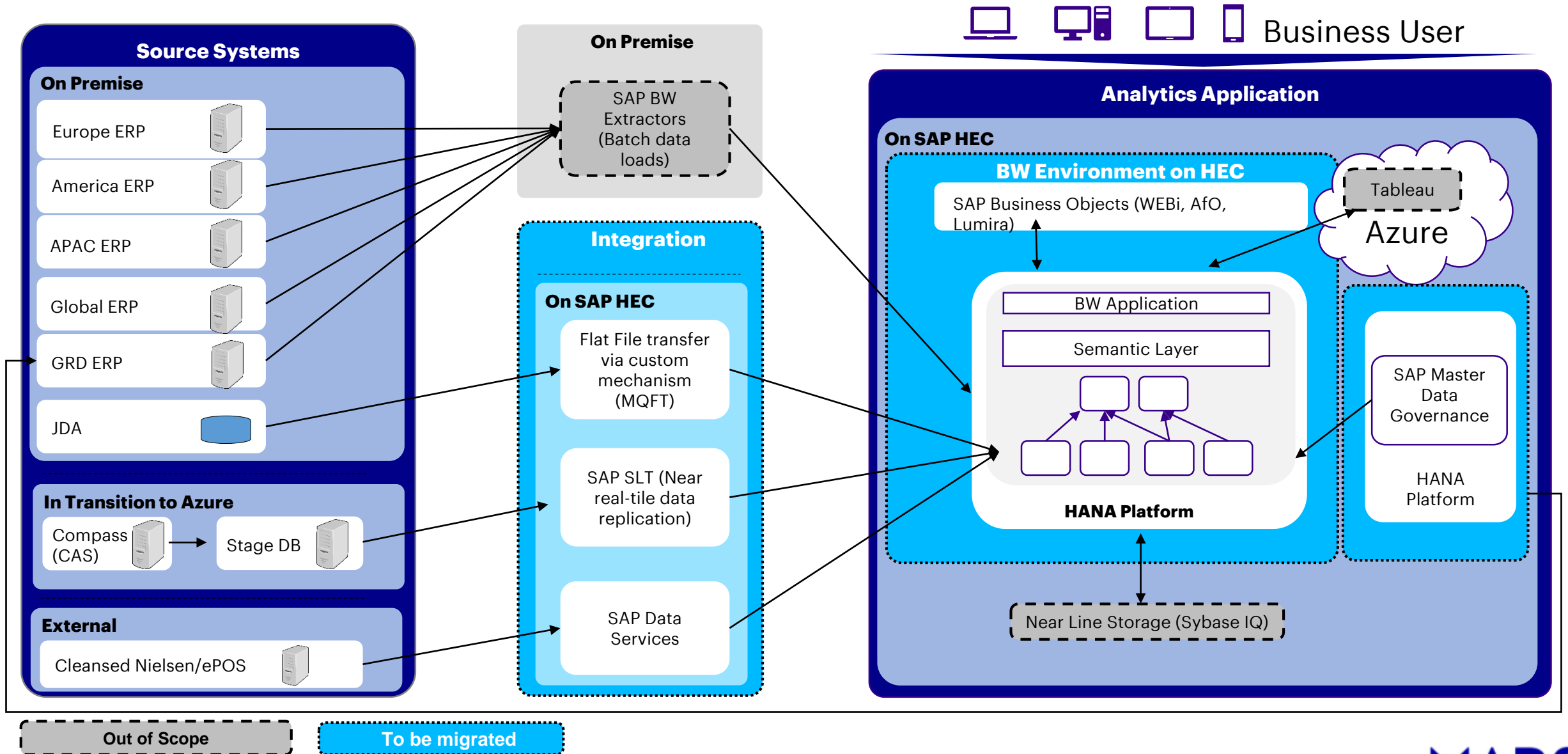


ACCENTURE RESPONSIBILITIES

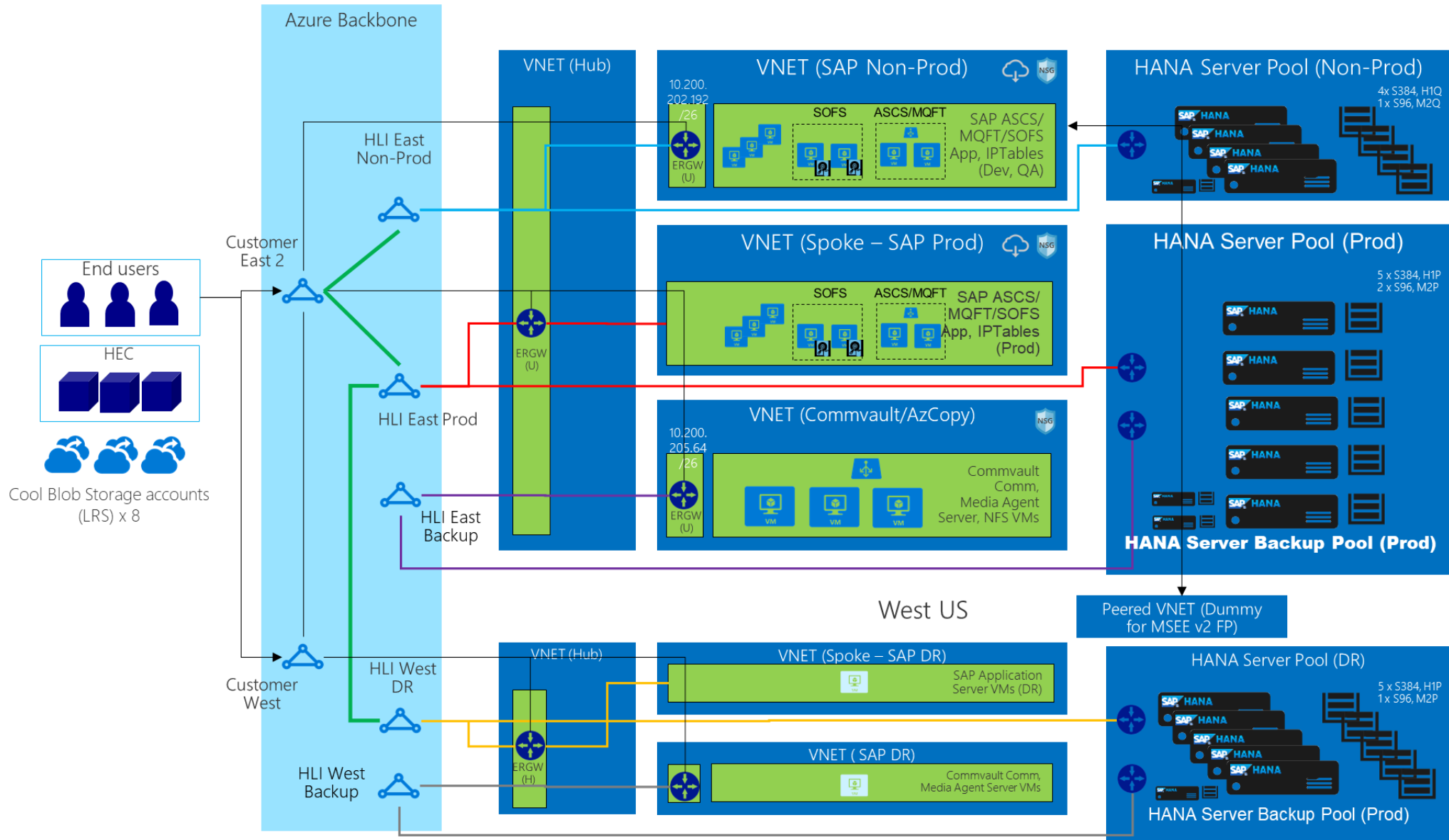
- Ensure migration within the aggressive timeline of 6 months
- Overall Delivery and Project Mgmt.
- Cloud Foundation
- Cutover within planned timelines (< 24 Hrs)
- Ensure no performance degradation
- Technical Migration Services/Basis
- Infrastructure and Basis Support



HIGH LEVEL – SYSTEM OVERVIEW - MIGRATION SCOPE



AZURE ARCHITECTURE



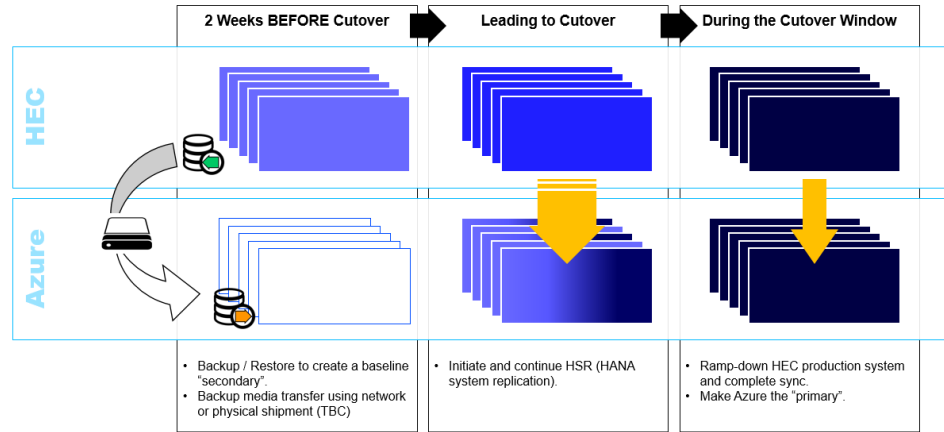
MIGRATION APPROACH

Migration	Purpose	Scope
Mock 0	Proof of concept migration Primary objective is to prove the migration mechanism (data export and import) and capture any optimisations Confirm network connectivity and underlying Infra is sufficient to migrate in an acceptable timeframe	QA environment with a production like set of data Limited Technical Testing
Dev	Migration of Dev env to Azure Refine the same process defined in Mock 0	Dev environment Validation with Dev Team
QA	Migration of QA env to Azure Refine the same process defined in Mock 0	QA environment Validation with Test teams Technical integration Test
Mock 1	Full scale production migration including all architecture components Objective is to define cutover plan and identify any optimisations/issues Refine post migration checks	Prod like environment Post migration checks
Mock 2 (Rehearsal)	Controlled rehearsal of full scale production migration Finalise the production run plan and timings Finalise post migration checklists	Prod like environment Post migration checks
Prod	Migration of Prod Envs	Prod

DATABASE MIGRATION – APPROACH

MIGRATION OF THE SYSTEM COMPONENTS CARRIED OUT USING THE BELOW APPROACHES

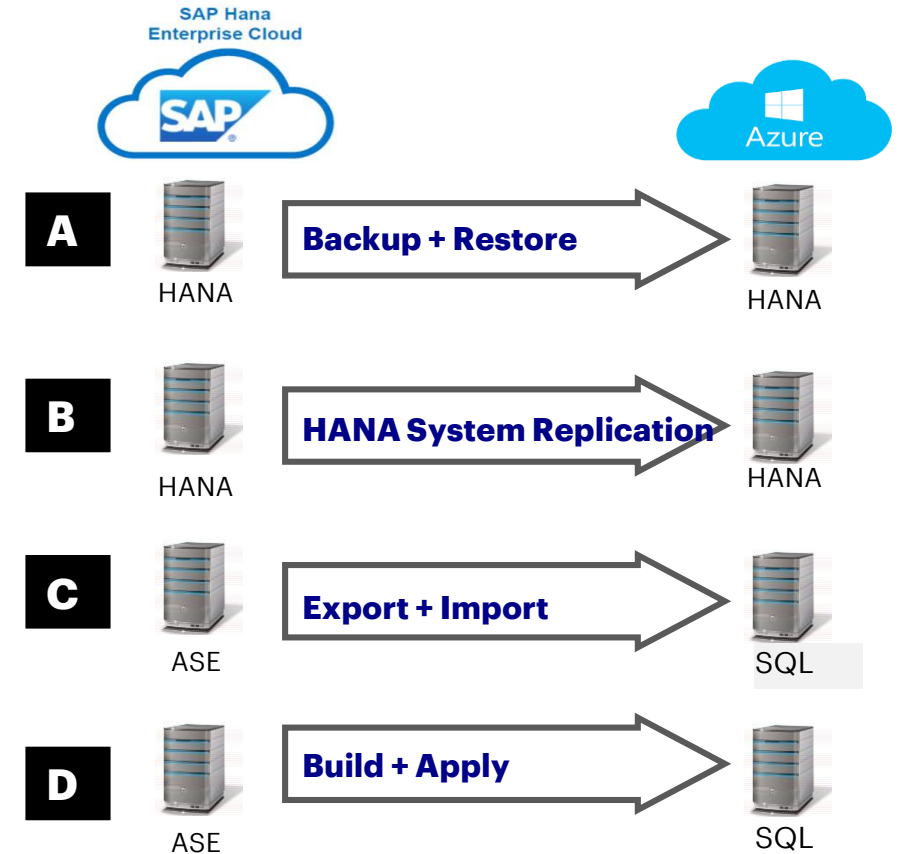
Migration Approach



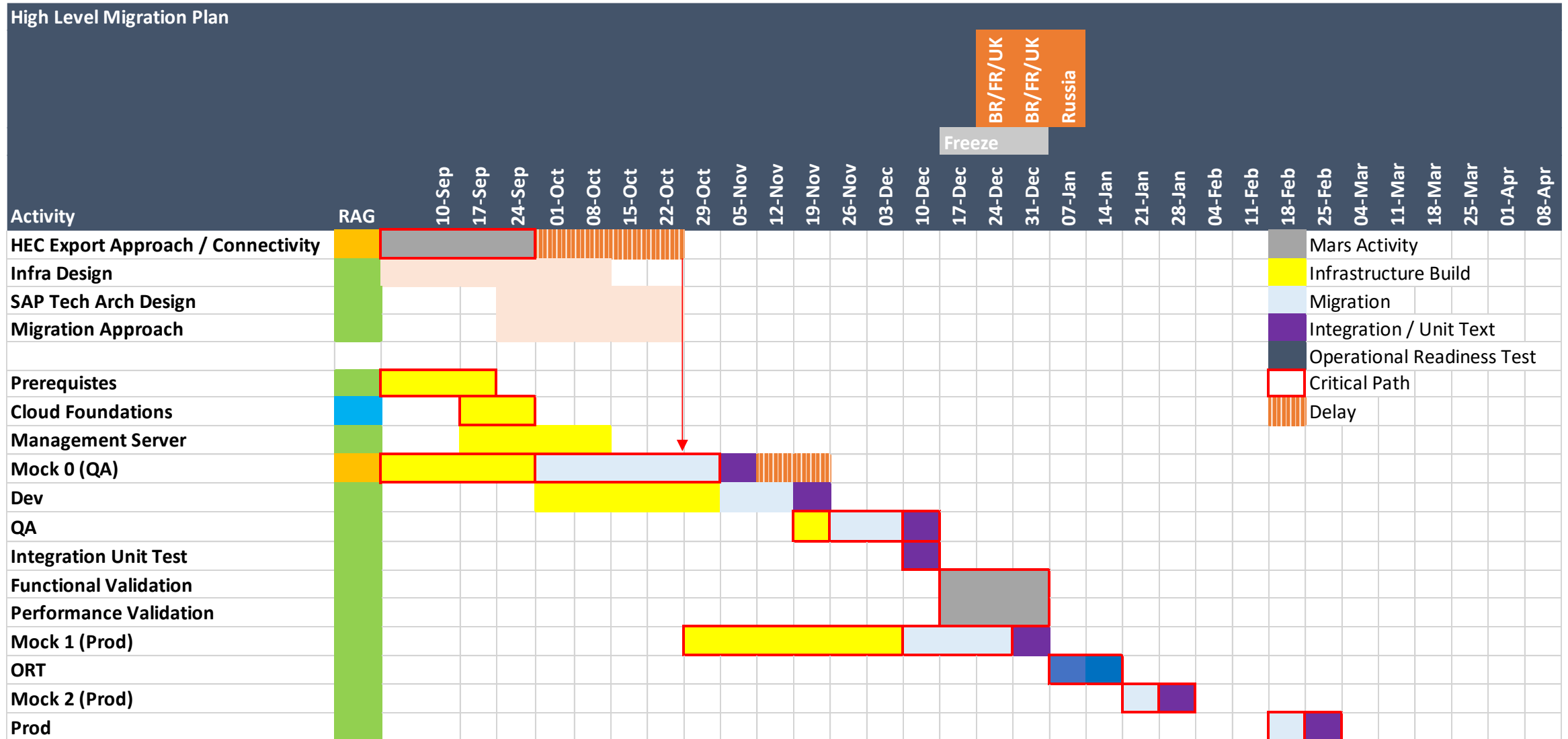
Migration Components

Product	Approach
BI 7.5	B
MDG	B
BOE Lumira	D
SLT	C
BODS	D

Migration Options



MIGRATION PLAN



MIGRATION METRICS

6 Months



End to End Migration completed in 6 months, complete exit from the incumbent as planned

3 Months



Low Level Azure and SAP design for all components completed in 3 months

Live DR Drill



Improved DR design introduced as part of migration which facilitate a "Live DR Drill"

1 TB/Hr



KPI of 1TB per hour backup/restore throughput designed and successfully implemented

3 Days



Achieved 16TB transfer in 3 days during migration execution on shared 1Gbps link

12 Hours



Technical Downtime of 12 hours for end users

Sub Micro-Sec Latency



Re-architected solution to meet the performance requirements – dependent on sub-micro second latency from App server to HANA DB

LEARNINGS

Area	Description	Recommendation
Data Transfer Approach	Only option – HSR to meet the downtime window for 16 TB size	Work with incumbent early in process to agree migration execution approach and associated dependencies such as connectivity
Backup Solution	Limitation of Commvault operability with HANA 1.0 for scale out environment meeting > 1TB throughput	Validate technical interoperability to exact version levels of each components
Architecture	Latency between the App to DB was not sufficient to support intensive batch loads	Validate performance needs well in advance Plan for simulating real production loads
Azure Support	Technical testing for HA DR needs extensive Azure support	Plan for dedicated support for these activities from Azure early in the program
Rapid change on Azure	Introduction of new feature on Azure cloud is a frequent process – Impacts change in design / implementation even at late stages in the project.	Freeze introduction of new features early in process, only add new features if there is a compelling reason or requirement.
Automation / Monitoring	No native Azure monitoring for S-Series (as available for VMs). Needs additional tools	Plan tools to meet the monitoring requirements
Storage Throughput / Cluster	No transparency on Netapp storage layout and design. Needs additional support for specific performance requirements	Develop understanding of underlying infrastructure and plan for early support requirements
Symantec Antivirus	Symantec AV restricts the throughput to max of ~1.8 Gbps. Not an option for high performance throughput needs	Explore and plan for alternate options
Network	Fast Path design needs dedicated ER Gateway to optimize latency	Factor the Fast Path requirements into Network Design

Q&A



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THANKS