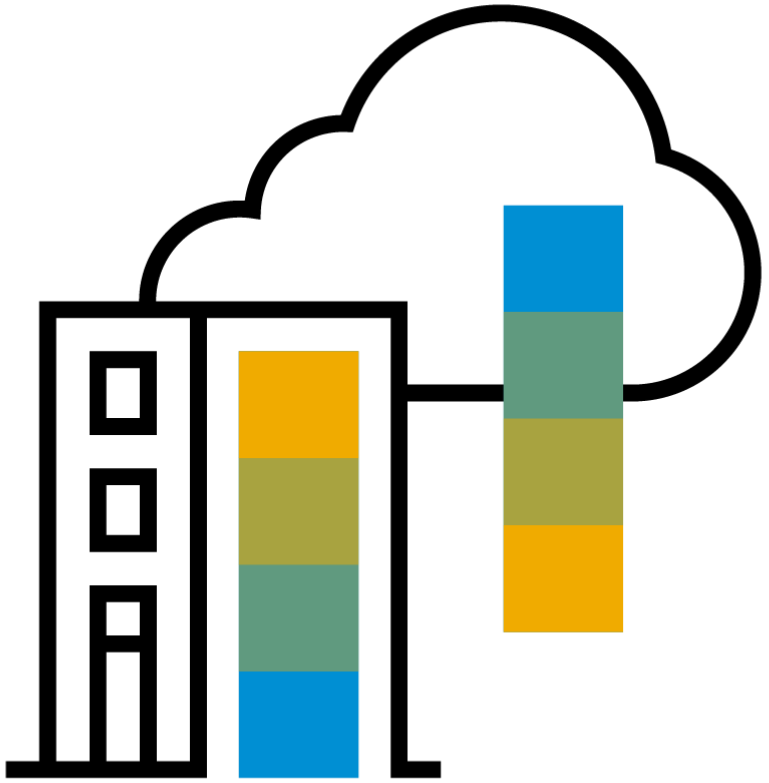
BTP High Availability and Disaster Recovery



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SAP Business Technology Platform: Enterprise Readiness

- Systematic approach to ensure “cloud” qualities of BTP services.
- Enable all BTP services with Multi-AZ High Availability

- Zero downtime maintenance (ZDM)
- Reduce & harmonize MUWs

- Centralized outage communication via SAP Trust Center
- Improve customer communication concerning outages – starting from initial outage alert until customer facing root cause analysis.

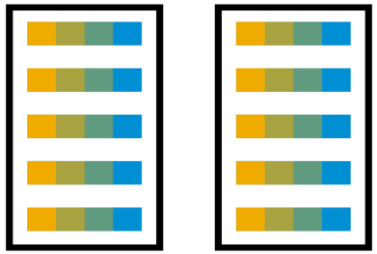
- Practice means to simulate failures: Chaos days & Game days
- Simulating them and handling it - process & people
- Maturity assessment

* SAP Document Management, Launchpad Service and Cloud Portal

Maximize System Availability

- **HIGH AVAILABILITY**

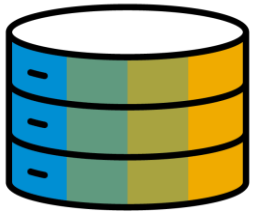
Eliminate single points of failure by providing redundancy at all levels



Prevent the loss of service in first place

DR: Restoration from Backups (standard DR)

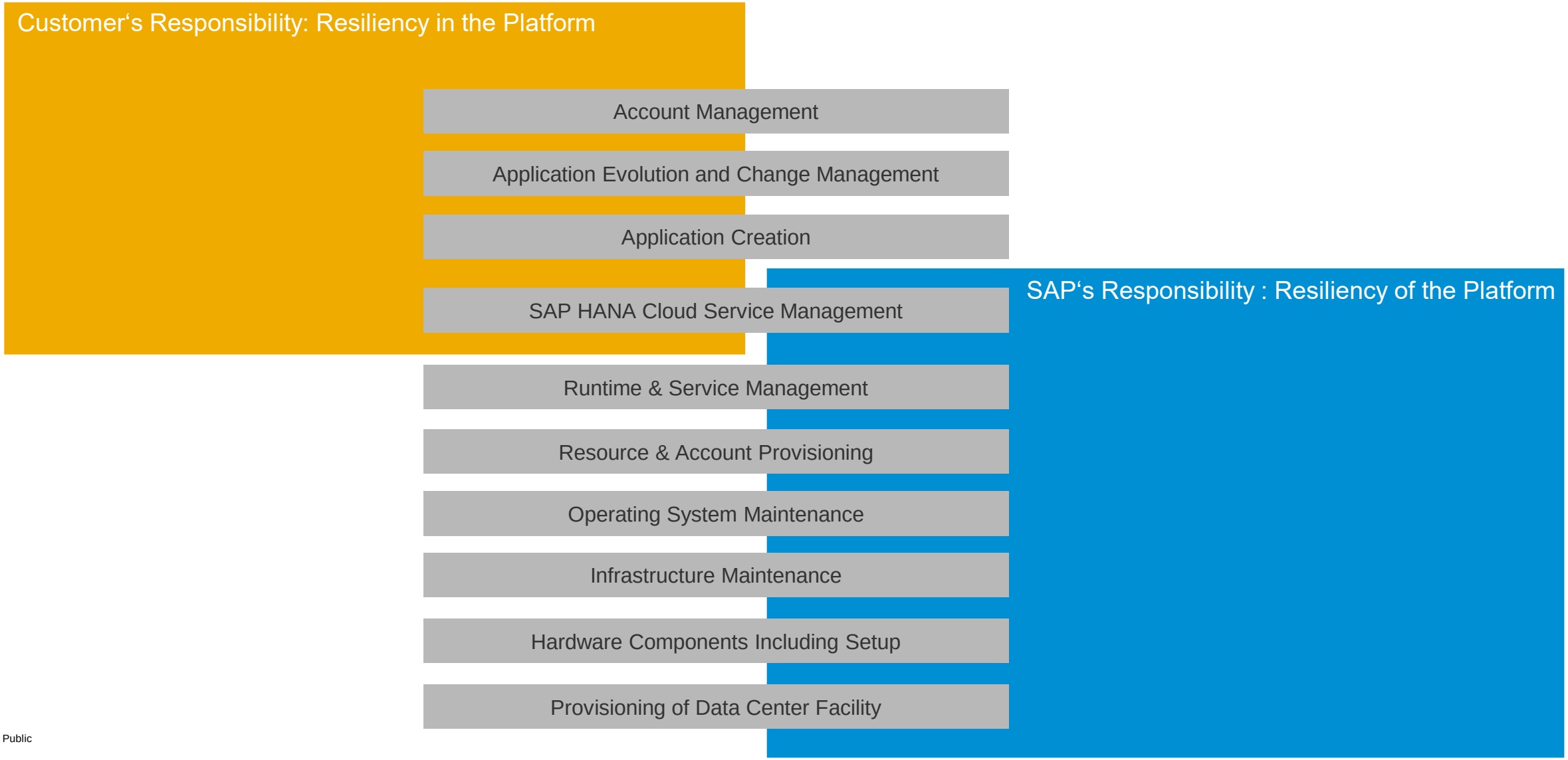
Following a disruption, a procedure to recover a system back to an operational state



Protect applications/services **from unwanted data loss**

Resiliency is a Shared Responsibility:

SAP manages the platform, whereas Customers develop and manage applications.



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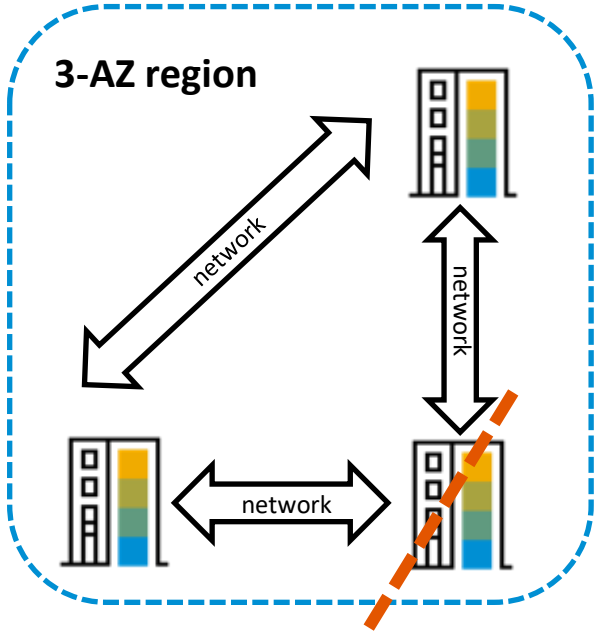
SAP‘s Responsibility: Resiliency of the Platform

SAP BTP High Availability: Multi-AZ

Multi-AZ deployments provide resiliency against infrastructure failure of a single availability zone by distributing stateless services across AZs and replicating data of stateful services between AZs.

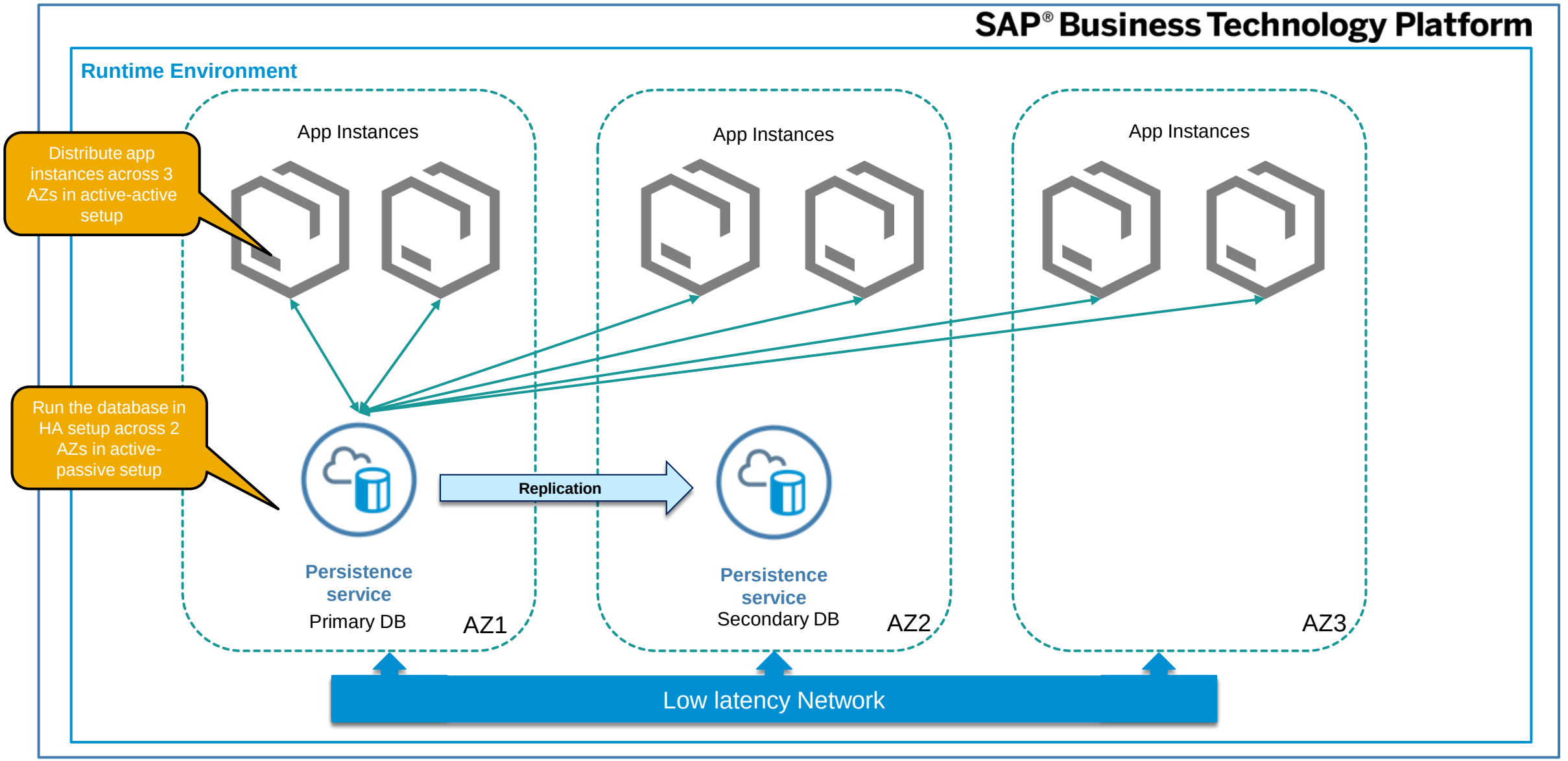
The multi-cloud environments of SAP BTP run transparently in a HA setup over multiple availability zones with an end state of 3 Availability Zones (AZs) in a hyperscaler's region. Exceptions to the 3 AZ set up can be found in SOC report[1].



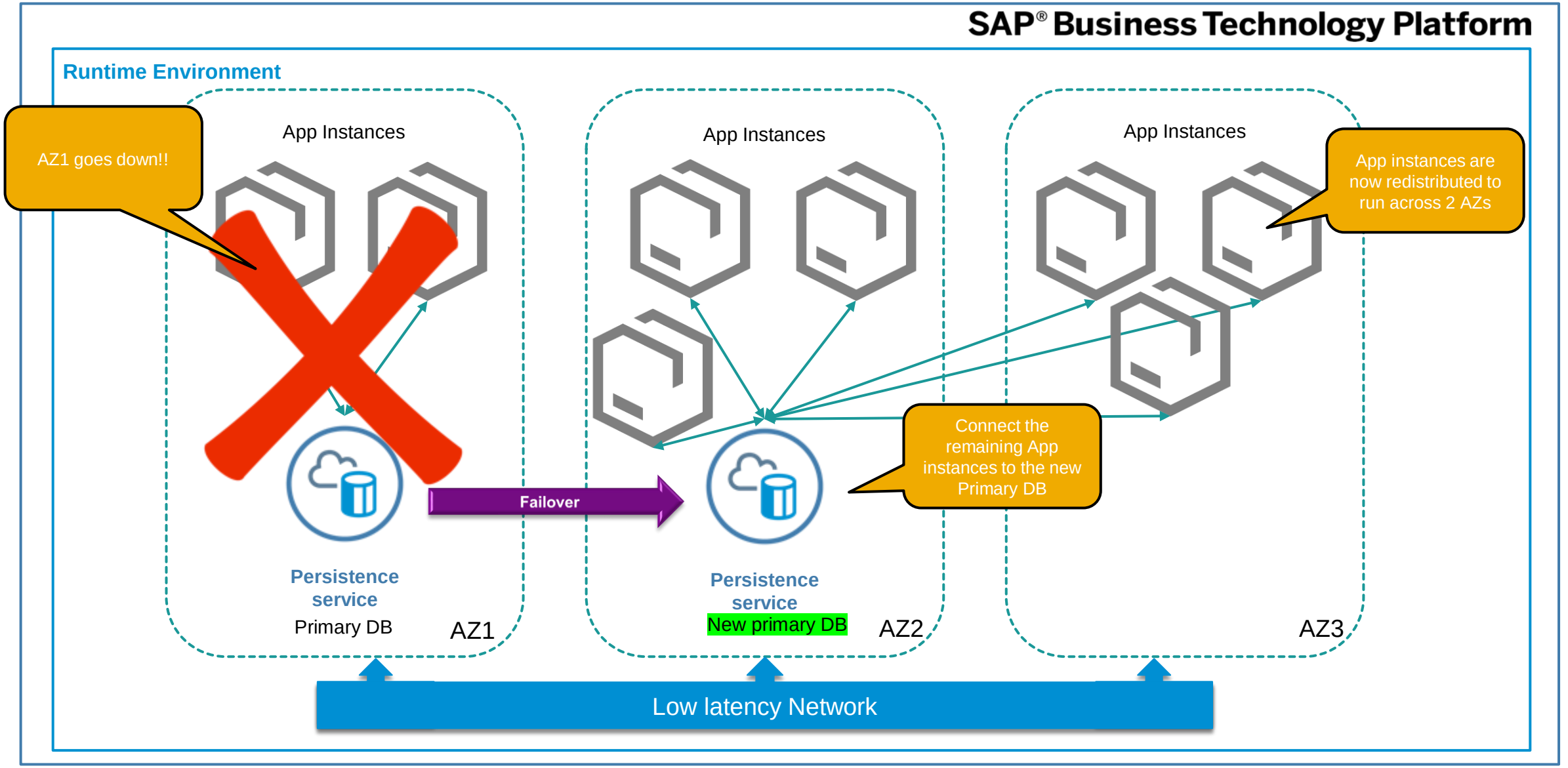
- **Transparent HA setup** over multiple near-by AZs within one region
  - HA pairs are equally distributed over the AZs
  - Applications run active-active across 3 AZs
  - Databases run active-passive across 2 AZs
- **Synchronous data replication**
- Automatic failover
- Traffic management, load balancing and failure detection
- "Chaos Days" testing methodology to regularly test internally for Multi-AZ failovers

1. Customers can request the BTP Audit Reports via SAP Trust Center https://www.sap.com/about/trust-center.html--> Compliance -->Service Organization Control Reports (SOC) -->SOC 2 Type 2 Reports resp. direct link

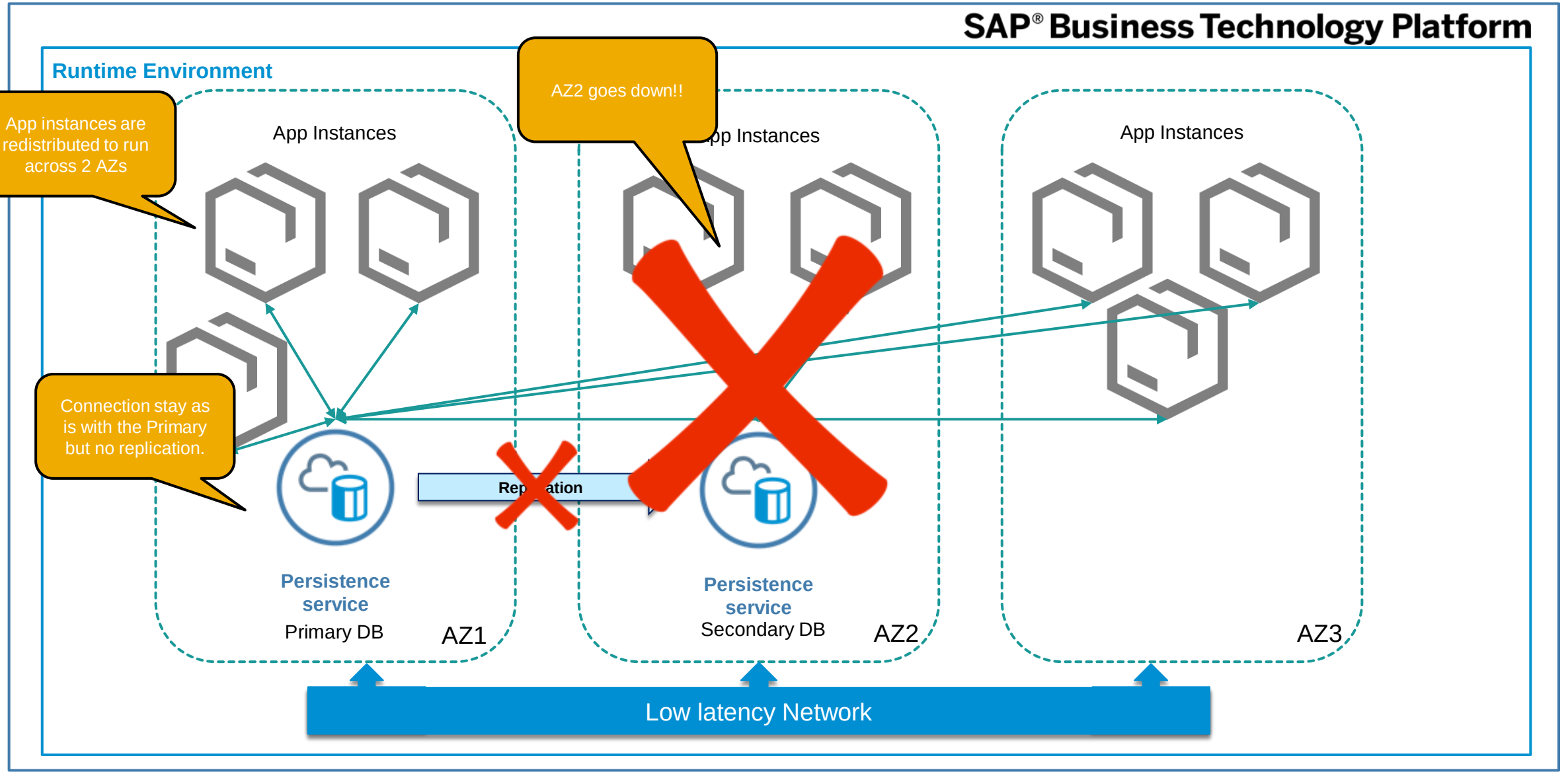
Multi-AZ setup (3 AZs)



Multi-AZ setup (3 AZs)

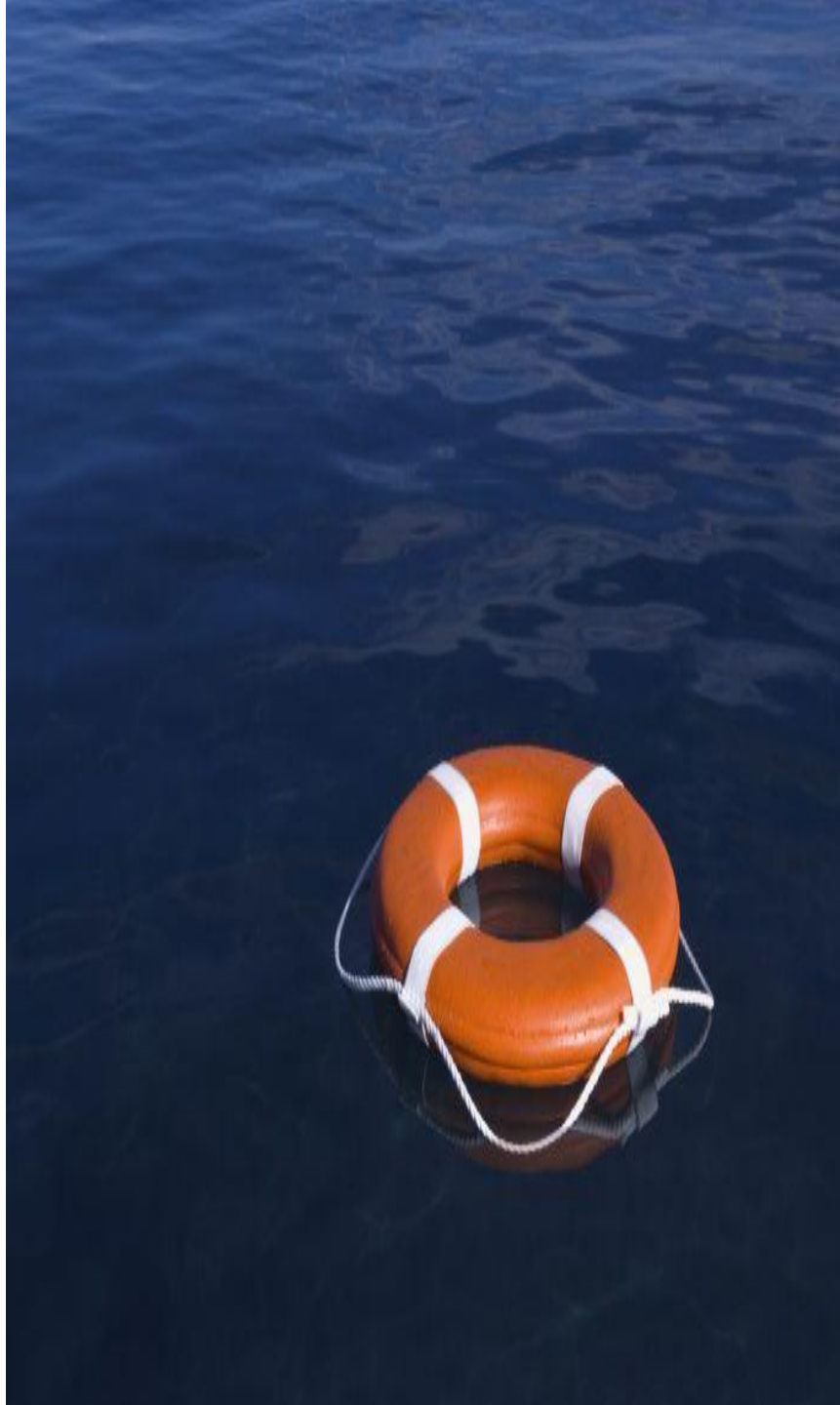


Multi-AZ setup (3 AZs)



Standard Disaster Recovery in a nutshell – Restoration from Backups

- BTP includes a Standard Disaster Recovery service out-of-box and without additional costs.
- The objective of the service is to protect production data from unwanted losses caused by a disaster. It comes into effect in case of a ‘declared disaster’ by SAP.
- The service is based on data restore from backups, which are stored in another availability zone within the region.
- The backups contain data (+ logs) stored in the Database or persistence services on SAP BTP.
- The offering does not guarantee any formal SLAs:
  - The Recovery Point Objective (RPO) has no strict SLA. The internal objective is 15-30 mins.
  - The Recovery Time Objective (RTO) is "best commercially reasonable effort" to restore the affected service as soon as possible at time of disaster.



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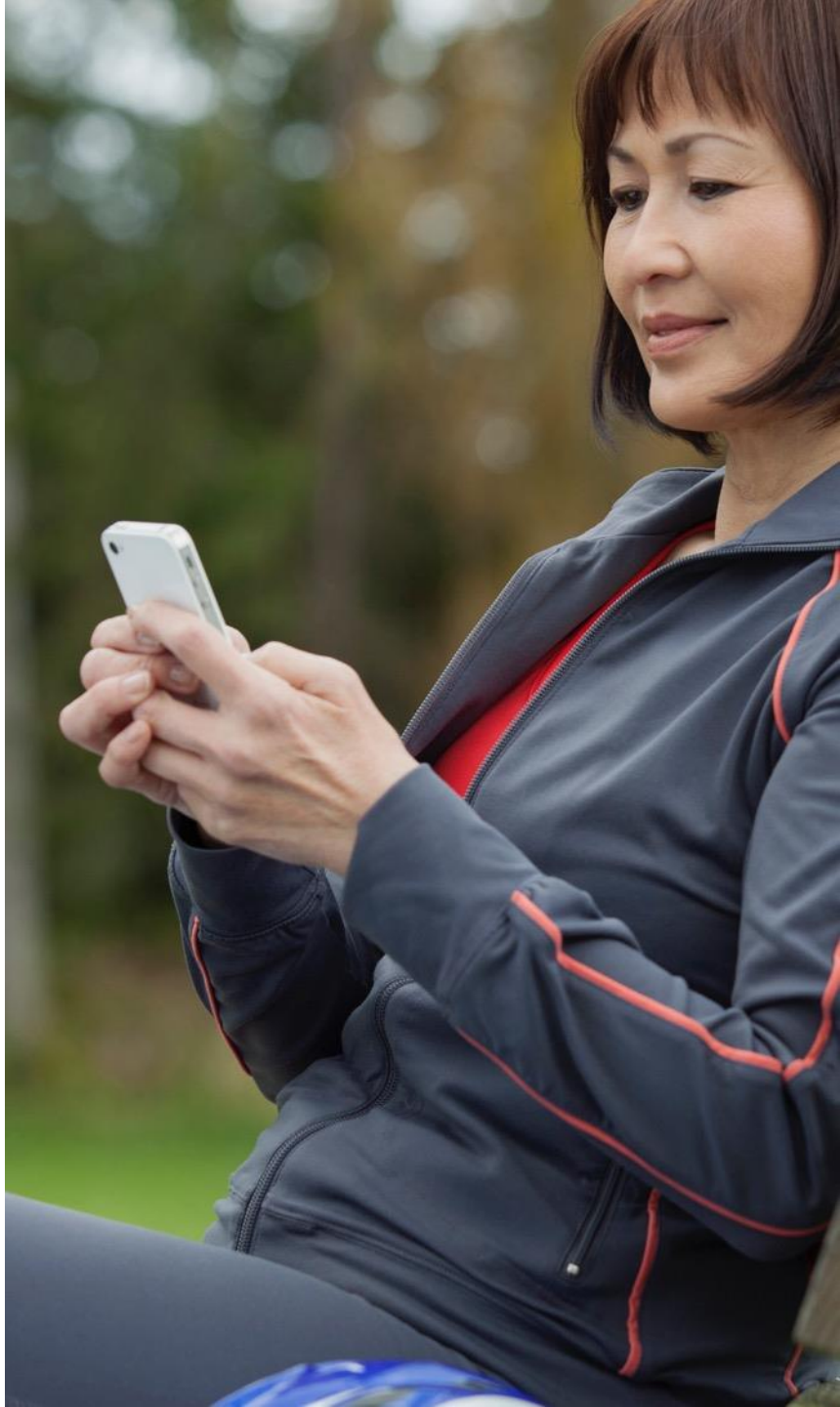
Customer‘s Responsibility: Resiliency in the Platform

How do Customers setup Multi-AZ for their applications?

- **Use resilient workload architecture for applications developed and deployed on BTP**
  - Identify your resiliency requirement
  - Embrace cloud native architecture
  - Introduce loose coupling between components
  - Introduce redundancy
  - SAP Help: Resilience Software Design on SAP BTP
  - Mission: Build Resilient Cloud-Native Applications
- **Consume out-of-box “Multi-AZ enabled” services provided by SAP BTP.**
  - SAP will ensure that most of the service instances are distributed across the different AZs within the region. E.g. : IAS, Integration Suite, BAS, Launchpad, Workzone.
- **Use the explicit High Availability configuration (where necessary).**
  - This is applicable to any service which provides a specific HA configuration like database/persistence services.
  - For databases, SAP will distribute the primary and secondary databases/replicas across 2 AZs. Example : HANA Cloud Services, Postgres Database.
- **Run at least 2 (>=2) instances of your application to be setup for High Availability (HA).**
  - For Runtime services. Example: CF Runtime, Kyma Runtime. The app instances are automatically distributed across the different AZs in your region



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Thank you.

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