**Common Services - Backup**

**Backup:**

The following defines the backup and retention approach which is applied across all in boundary system components.  All components adhere to the following requirements unless there is a deviation intensified and documented in decision log. For example deviation identified for a specific technology limitation, regulatory compliance or scope not appliable.

The following section summarizes and is aligned to Munich Re’s global backup standards as defined in Munich Re Essentials, as well as one cloud building blocks please refer to Supporting Documents. In the case where one cloud & Munich Re essentials have differing standards – the following principles have been applied:

* Select standard which provides the highest service and / or security posture
* Review only in the case where implementation drives an un-acceptably high cost and low benefit.

* **Dev, QA and Test will not require a backup solution and should be re-creatable from DevOps.**
* Only specific Database will have backup solution which will be confirmed in the planning stage.
* Production requires full backups and SQL point in time recovery.
* The RPO/RTO requirements stated shall inform the architecture design encompassing DR.
* The assumptions on back up frequency and back up retention are based upon at least meeting the following current state arrangements:

* 30 days +7 days of SQL Logs, GRS Storage, high churn
* 12 monthly backups
* 7 yearly backups

**Type & Frequency :**

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| --- | --- | --- |
| **Type** | **Description** | **Frequency** |
| Full Backup | Containing all data, allows the complete restore of data or systems in one step. Since full backups require a long time depending on the data volume, they are typically pulled on week-ends not to interfere with the business operation. The high amount of input / output would otherwise impact the system performance. | weekly backup for all production systems (including file servers), normally starting on the week-end. |
| Incremental backup | Represents the delta since the last backup of any type. Since the data volume is low in comparison with a full backup, it does not put such a heavy load on systems and network. | Everyday backup |
| Point-in-time backup | Allows to restore the dataset for any given point in time based on defined thresholds (applies only for SQL and Oracle databases). This requires clearly that the database is still accessible -which is not given in some cyber scenarios -and the “last known good” point in time is known. This is not handled by Backup and Restore service but by Database Services. | Hourly Backup |

**Backup details RPO /RTO**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Component** | **Summary** | **DR Scope** | **Owner** | **RTO** | **RPO** | **Availability** | **Comments** |
| **1** | **Azure Virtual Machines** | **Bridge and critical components** | **Yes** | **B&C** | **4hrs** | **1hr** | **99.5%** |  |
| 2 | Azure SQL Managed Instance | SQL Warehouse | No | B&C |  |  |  | These will be Geo replicated |
| 3 | Azure Storage Account | File Share, Archive | No | B&C |  |  |  | These will be Geo replicated |
| 4 | Azure Key Vault | Credential & key store | No | B&C |  |  |  | These will be Geo replicated |
| 5 | Azure DevOps | Deployment & Source Control | No | B&C |  |  |  | SaaS service |
| 6 | Azure DNS | Domain Name Resolution server for private end points | TBC |  |  |  |  | Confirm with MRE team |
| 7 | Azure One Cloud Hub & Spoke | MRE Connected Spoke, NSG, Routing, Internet & Gateway. | No | MRE |  |  |  |  |
| 8 | Office 365 / SMTP Relay | Email & Inbox Services | No | MRE |  |  |  | Consumed as wider Munich Re service |
| 9 | Azure Active Directory | Domain and IAM services | No | ITSSO |  |  |  |  |
| 10 | End User Compute | Laptops, HVDs | No | MRE |  |  |  |  |
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**Backup schedule**

Retention of **daily** backup point

At Time: For <*Number of days*>

Retention of **weekly** backup point

On < *day of week*> At Time: For <*Number of weeks*>

Retention of **monthly** backup point

On < *1st,2nd,3rd,4th, last*> On < *day of week*> At Time: For <*No. of months*>

Retention of **yearly** backup point

In < *Month*> On < *1st,2nd,3rd,4th, last*> On < *day of week*> At Time: For <*No. of years*>

**Instant Restore**

Retain Instant recovery snapshots for <*No. of days*>

Enable Tiering – To move RPO to Archieve Tier  
  
Graphical user interface, text

Description automatically generated

SQL MI Backup Policy (SQl MI are Backed up Automatically) Configuration Policy needs to be defined

Graphical user interface, text, application, email

Description automatically generated

Dev Virtual Machines will have weekly backup enabled

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **DEV** | **Frequency** | **Days** | **Time** | **Time Zone** |
| BCDEVImporter | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCDEVTableau | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCDEVWeb1 | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCDEVWeb2 | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCDEVTerminal | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCDEVSSRS | Weekly | Sundays | 8:00 AM | UTC+00:00 |

QA Virtual Machines will have weekly backup enabled

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| **DEV** | **Frequency** | **Days** | **Time** | **Time Zone** |
| BCQAImporter | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCQATableau | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCQAWeb1 | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCQAWeb2 | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCQATerminal | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCQASSRS | Weekly | Sundays | 8:00 AM | UTC+00:00 |

UAT Virtual Machines will have weekly backup enabled

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **DEV** | **Frequency** | **Days** | **Time** | **Time Zone** |
| BCUATImporter | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCUATTableau | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCUATWeb1 | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCUATWeb2 | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCUATTerminal | Weekly | Sundays | 8:00 AM | UTC+00:00 |
| BCUATSSRS | Weekly | Sundays | 8:00 AM | UTC+00:00 |

Productions Virtual Machines in which Backup will be enabled