Why and How to Move Your ProjectWise Environment to the Azure Cloud

Hans Koorneef, Technical Director Project Delivery, EMEA

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Advancing Infrastructure

Why and How to Move Your ProjectWise Environment to the Azure Cloud

- Witness how the Microsoft partnership enables you to leverage the security and reliability of the Azure cloud when migrating your ProjectWise implementation to a cloud-hosted environment.

  Learn about the migration and maintenance, as well as how this practice can help reduce overall IT costs, provide greater operational agility for project starts, and improve disaster recovery protection.

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History of Hosted ProjectWise

- 2003 ProjectWiseOnline.com
- 2005 Business Plan Proposed
- 2007 Bentley Hosts First Systems
- 2011 Amazon AWS
- 2014 Microsoft Azure

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By The Numbers

- 50K+ Active Users
- 1,000+ Datasources
- 2,000+ Servers
- 110 Million Files
- 18 Million Folders
- 350 TB of Data
- 3+ Billion Audit Trail Records

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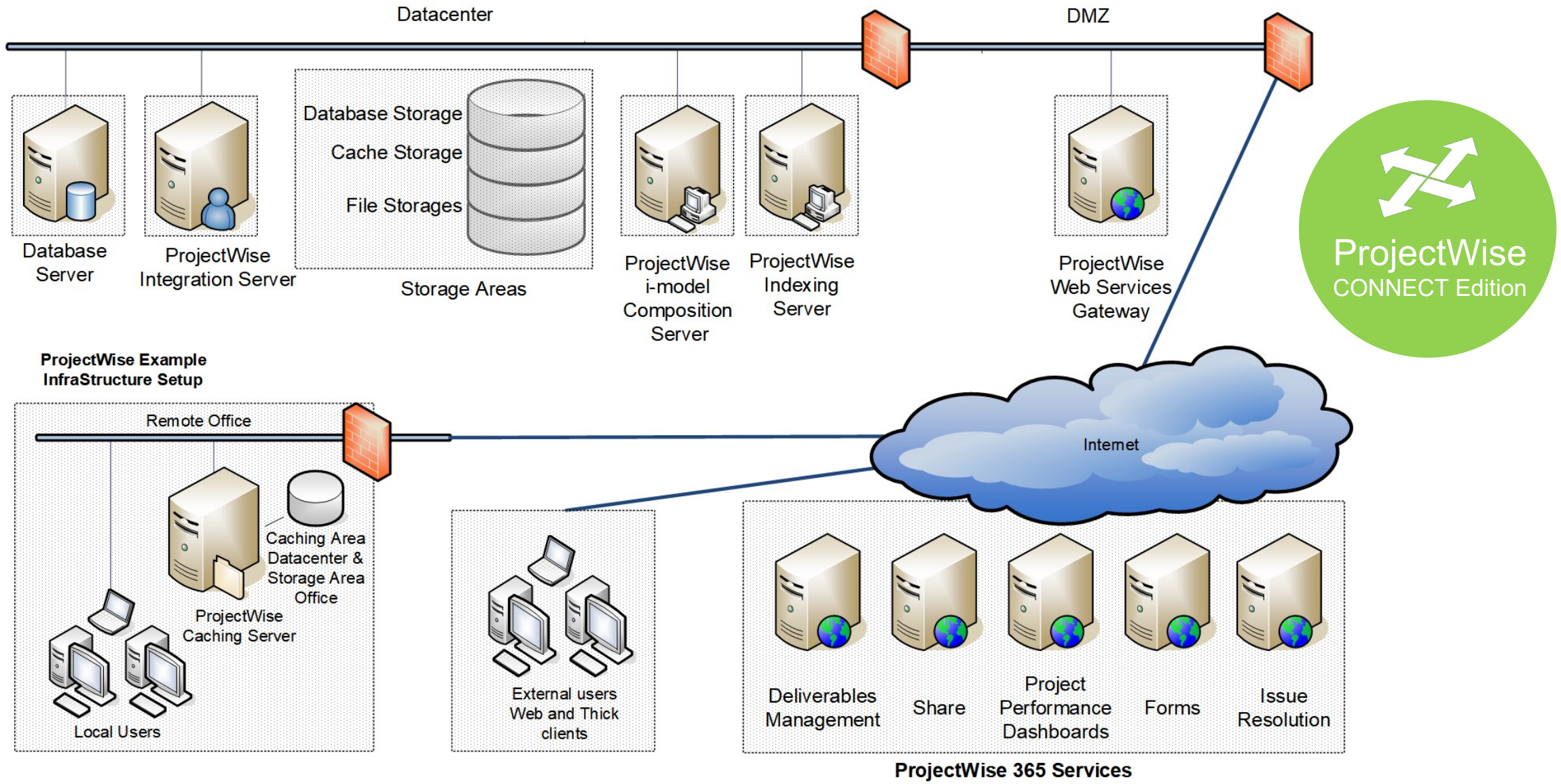
IT infrastructure example



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Bentley Cloud Hosting Benefits

- Secure and Reliable
  - Leverages Azure-cloud infrastructure and technologies
  - SLA: 99.9% service availability with 24x7 global access…
- Compliance

- HA and Disaster Recovery
  - Built in redundancy
  - Regular backups of the database and file system
  - Scheduled Security patching and software updates
- And “stuff” you’re not getting around to

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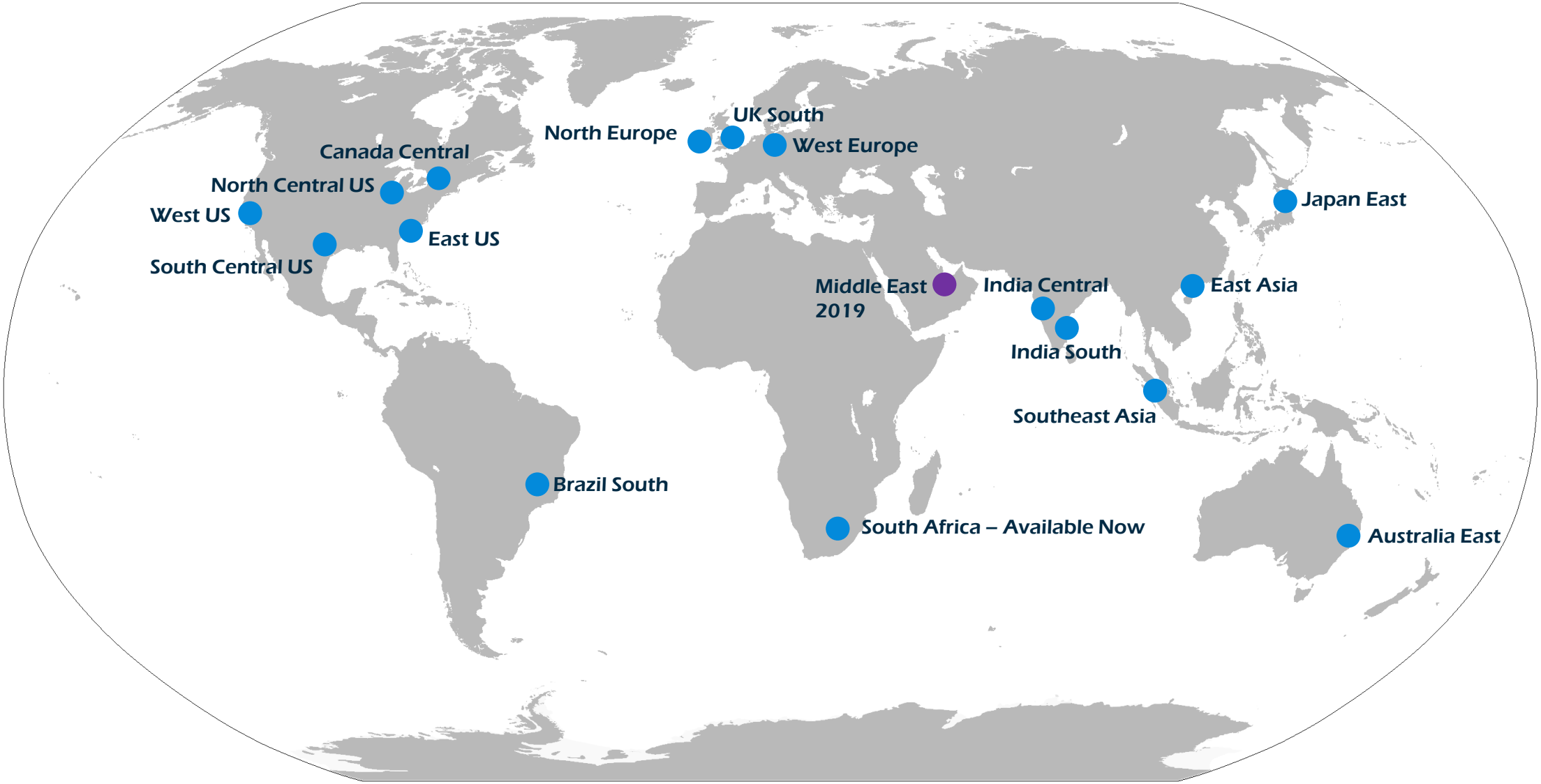
Datacenter Locations



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Data Center Hosting Information

The table below indicates which services are supported in each data center. It does not reflect your project data center location preference.

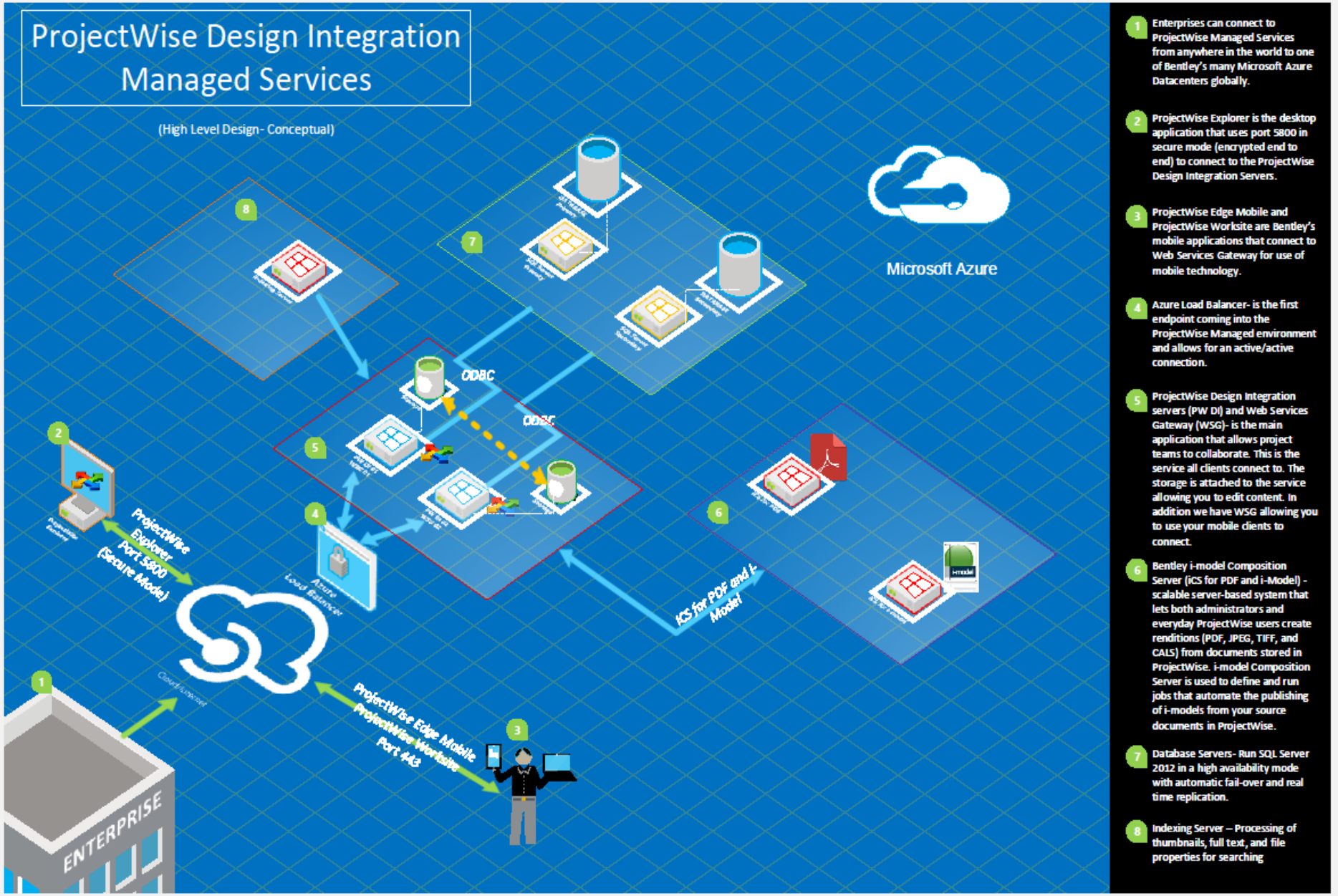
Please note that if a service is not supported in your selected data center, the data will be stored by default in the US East location.

Services	Canada Central	UK South	Australia East	Southeast Asia	East US	North Europe
Deliverables Management	●	●	●	●	●	●
Forms	●	●		●	●	
iModel Manager		●		●	●	
Issue Resolution	●	●		●	●	
iTwin Design Review		●			●	
Project Insights					●	
ProjectWise ContextShare		●	●	●	●	●
Share	●	●	●	●	●	

Done

Typical Architecture

- App Cluster
- Index
- iCS – PDF
- iCS – iModel
- SQL Cluster



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Service Level Agreement

- Availability Commitment of 99.9%
  - Maintenance Windows are excluded from the calculation
  - Outages are rounded to the nearest minute
  - Calculated by FQDN

Availability Commitment	System Availability Period
99.9%	24x7

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Service Level Agreement

- Service Priorities

Name	Classification	Description	Example
Priority 1 (P1)	Critical	System Down A complete loss of cloud service – no user can interact with the service	Users at multiple sites cannot access the system and no workaround exists.
Priority 2 (P2)	High	Incident which impairs the users' ability to maintain business operation causing a severe degradation of service or resulting in some important functionality being unavailable. Operations can continue in a restricted fashion.	Users can access system however there is material degradation of functionality or performance
Priority 3 (P3)	Medium	Incident which causes a loss of some important functionality.	A service is not available causing inconvenience, however, business operations can continue without major disruption
Priority 4 (P4)	Low	Incident which has little or no significant impact on the business. Low impact & low urgency.	The behavior varies from user expectations, but normal business operations can continue.

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Service Level Agreement

- Service Targets

Priority	Response Target	Resolution Target	Update Interval
P1 - Critical	1 Hour	See below*	1 Hour
P2 - High	2 Hours	1 Business Day	1 Business Day
P3 - Medium	4 Hours	10 Business Days	5 Business Days
P4 - Low	8 Hours	Mutually Agreed	Mutually Agreed

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Service Level Agreement

- Disaster Recovery Objectives

Recovery Time Objective (RTO)	Recovery Point Objective (RPO)
8 Hours	1 Hour

RTO: The maximum tolerable length of time that a computer, system, network, or application can be down after a failure or disaster occurs

RPO: A measurement of the maximum tolerable amount of data to lose

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Preparing for the Cloud

- Security Considerations (See Trust Center)
  - Cloud Security Alliance
  - Questionnaires
- Network
  - Points of egress
    - Number
    - Speed
  - Routes
- Integration with On-Premise Solutions
- How are you doing business, and will that change?

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Deployment Options

- Hybrid vs. Hosted vs. Deployed
- Single or Multiple Datacenters
- Data Migration or New Datasource
- Migration Workflow

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IMS / Federated Users

- IMS Federations / Single Sign On (SSO)
- Federation between Bentley IMS and your Identity Provider
  - Identity Providers (Azure AD, ADFS, OKTA, PingOne, etc..)
- ProjectWise Client 10.00.02.96+
- Bentley CONNECTION Client

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Migration Process

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Migration Workflow

- Situational Assessment Workshop (SAW)
- Datacenter Selection
- Provisioning of System
- Migrate Data
- Transfer Database and File Storage
- Testing
- Final Migration of Data
- Deploy Database and File Storage
- Test/Go Live

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Data Migration – Files & Database

- Transfer Client - Goodsync
  - Secure Connection
  - Direct Azure Storage Transfer
  - Schedule Jobs
  - Parallel Threads
  - Delta Transfer

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Hosting Roadmap

- Improved Load Balancing
- Azure Files / Blob Storage
- SQL Azure
- ProjectWise Update 3.2
- Health Dashboard
- FedRAMP
- NIST 800-171

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