



BI ONDEMAND ATTACHMENTS

Attachment 1

BI OnDemand Development Environment Configuration

SAP BusinessObject BI OnDemand (BIOD) provides the platform and features for a hosted data warehouse to be used with crystalreports.com. The actual artifacts of a BI solution must be developed by Licensee. At a minimum, the following artifacts must be created:

- Data warehouse schema
- Extract, Transform, and Load (ETL) jobs to move data from source system to data warehouse
- Business Objects Universe for metadata management and ad-hoc reporting
- Reports, dashboards, and other documents

SAP provides the BIOD Development Environment (BIOD-DE) so customers can build, modify, and maintain BIOD solutions rapidly by saving time on the setup of a development environment. The BIOD-DE is a hosted system that is accessed remotely by Licensee to build and deploy the necessary BIOD artifacts. The following description of the BIOD-DE is based on current availability. SAP may change the BIOD-DE in accordance with the terms of this Agreement.

CAPACITIES AND SPECIFICATIONS

SQL Server 2005 databases	The DE consists of 2 SQL Server databases to be used as data warehouses. One database is to be used for schema and ETL development and the other for content development and testing.
Maximum size of DE databases	This will be specified in the order schedule for BIOD.
Business Object Enterprise (BOE) repositories.	A single BOE repository will be created in the DE for the purpose of developing BOE Universes, users, and permissions. The following versions of BOE are in use in the DE: <ul style="list-style-type: none"> • BOE XI R2 SP2 (CRDC) • BOE XI 3.1 SP 1 (BIOD)
Data Services or Data Integrator repositories	The DE shall consist of two repositories for Data Services or Data Integrator to correspond to the SQL Server databases for warehouses. Each repository shall be created on SQL Server. The following versions of DS or DI are in use in the DE: <ul style="list-style-type: none"> • Data Integrator 11.7 • Data Services 12.2
DS/DI limitations	The use of overflow files in DI/DS jobs is prohibited. DI/DS jobs must clean up all temp directories. Temp directories that have any data remaining after a DI/DS job has completed (successfully or otherwise) are subject to deletion by BIOD personnel. For other standards that must be followed in DI/DS development, see the <i>BIOD Lifecycle Management Guide</i> .
VPN access	The DE is accessed via a VPN connection. Developers must be able to run the web-based version of Cisco Connect VPN client, which is not included in the Service. 2 VPN accounts will be created for the DE, and more may be provisioned subject to the order schedule for BIOD.
SQL Server logins	Connection to the data warehouses in the DE shall be by SQL Server standard authentication. Each data warehouse shall have two logins and users created for it—one for database owner privileges, and one for read-only privileges. Licensees using the DE are not permitted to have system administrator privileges on any of the SQL Servers.
SQL Server ODBC DSNs	Universes shall be connected to the data warehouse via an ODBC System DSN. The DSN name must be the same in the DE as it will be in production.
Virtual machines	The development tools for the DE are provided on virtual machines (VM) that are accessed across the VPN via Windows Remote Desktop. 2 such VMs will be provided for each BIOD tenant and each will contain 2GB of

	<p>free disk space, 1 VM processor, and 1GB RAM. Additional VMs may be procured subject to the order schedule for BIOD. User accounts for the VMs do not have administrator access and thus the VMs are not configurable by the DE developer. The VMs contain the following software:</p> <ul style="list-style-type: none"> • SQL Server Management Studio • BOE Designer, Webi Rich Client, Import Wizard • Crystal Reports 2008 • DS/DI Designer • SFTP client
DE Storage	A NAS drive share will be provided for each VM to allow for storage of artifacts and other work product. Each NAS share will by default be 5GB in size.
SFTP access	For customers needing to transfer files to BIOD-DE, each DE will have 2 SFTP accounts provisioned of 1 GB each, or other size as specified in the order schedule. Incoming SFTP traffic is filtered for security reasons and must be from a known, static IP address. A maximum of 3 such addresses may be used for each SFTP account. The customer is responsible for clearing out the SFTP folders either manually or automatically (via DI/DS jobs).
Service console	BIOD provides a “service console” for testing and deploying various artifacts to production. 2 service console accounts will be created for each DE tenant.

DEPLOYMENT OF ARTIFACTS

Deployment of SQL Server objects to production	Deployment of SQL Server DDL objects will be done by BIOD personnel only. When the schema is ready to be deployed to production, the customer must open a service ticket stating which database in the DE is to be deployed. BIOD personnel will then script the database objects and run that script on the production SQL Server. Deployment is of the DDL only, not of the data.
Deployment of DS/DI jobs to production	Deployment of ETL jobs will be done by BIOD personnel only. When the DI jobs are ready to be deployed to production, the customer must open a service ticket stating which DI/DS project is to be deployed. BIOD personnel will then export the project to XML and import them to the production repository. All DI objects must use the proper naming conventions as described in the <i>BIOD Lifecycle Management Guide</i> or they cannot be deployed.
Deployment of BOE universes to production	Deployment of BOE Universes is done by the developer through the service console when needed. The deployment mechanism is via a BIAR file import. See the <i>BIOD Lifecycle Management Guide</i> for complete instructions.
Deployment of data	Data warehouse databases are populated by using the DI/DS jobs running against the data source. Copying of data by any other means (such as backup/restore, attach/detach, etc) may be accommodated by BIOD personnel but is not guaranteed.
Creation and execution of DI/DS schedules	Jobs may be scheduled and executed in the DE by using the DI Designer tools provided on the VM. To run a DI or DS job in the production repositories requires the use of the service console (see the <i>BIOD Lifecycle Management Guide</i> for instructions). At no time is anyone but authorized BIOD personnel allowed to directly access the DI/DS repositories in the production network.

BACKUP

Database backups	Databases in the DE are backed up on a daily basis. Backups are kept for 7 days and are stored on-site at the BIOD data center.
SFTP backups	The SFTP accounts and folders are not backed-up. They are intended as temporary storage for data transfer into BIOD.
NAS backups	NAS shares are automatically backed up on a daily basis. Backups are kept for 7 days and are stored on-site at the BIOD data center.

SERVICE

DE setup time	The DE will be setup and ready to use within 5 business days from the day the signed Agreement , or order schedule, as applicable, is received.
Help requests	Any requests for help, tasks, or information shall be submitted through the BIOD service ticketing system on-line. See the <i>BIOD Lifecycle Management Guide</i> for instructions.

Attachment 2

Service Level

1. The Service Level Agreement (SLA) listed below shall apply upon the date Licensee receives access rights to the SAP BusinessObjects BI OnDemand Service. Availability shall be measured at the exit (outbound port) of the firewall at SAP's data center. The On Demand Service is deemed "available" if the application accessed is able to respond to end-user or inter-system interaction requests. Availability of the On Demand Service will be calculated per calendar month, as follows:

$$\left[\left(\frac{\text{total} - \text{nonexcluded} - \text{excluded}}{\text{total} - \text{excluded}} \right) * 100 \right] \geq 99.5\%$$

Where:

- *total* constitutes the total number of minutes for the month
 - *nonexcluded* constitutes unplanned downtime
 - *excluded* constitutes the following:
 - Planned downtime, which shall be any period for which SAP gives 8 hours or more notice that the Service will be unavailable (not to exceed 15 hours per calendar month). SAP will use commercially reasonable efforts to ensure that planned downtime falls outside normal business hours (6:00 AM to 6:00 PM, Pacific U.S. Time, Monday through Friday).
 - Any period of unavailability lasting 5 minutes or less.
 - Any unavailability, suspension or termination of the SAP BusinessObjects BI OnDemand Service (i) that results from service suspensions described in the Agreement; (ii) caused by factors outside of SAP's reasonable control, including any force majeure event or Internet access or related problems beyond the demarcation point of SAP BusinessObjects BI OnDemand Service; (iii) that result from any actions or inactions of Licensee or a Named User; (iv) that result from Licensee's equipment, software or other technology and/or third party equipment, software or other technology (other than third party equipment within SAP's direct control); (v) arising from SAP's suspension and termination of Licensee's right to use SAP BusinessObjects BI OnDemand Service in accordance with the Agreement.
2. Upon Licensee's request, SAP shall provide Licensee with information on the Service availability for the previous calendar month. In the event that the SLA on availability is not met in three (3) consecutive calendar months, Licensee shall have the option to terminate the non-compliant Service, provided Licensee reports the downtime and requests termination within 10 days of the end of the third consecutive calendar quarter during which availability fell below 99.5%. After any such termination by Licensee, SAP will refund to Licensee any prepayment for the period following the date of termination. This Section 2 states the entire liability and obligation of SAP and the exclusive remedy of Licensee for any breach of this SLA and the availability of the OnDemand Service.
3. The provisions of this SLA shall not apply to any test systems that SAP may make available to Licensee from time to time or to any development environment.