CenturyLink Technology Solutions Service Guide

Web Application Software 1.0

Managed WebSphere Application Server

This CenturyLink Service Guide ("SG") sets forth a description of Web

Version	Previous	Section Modified	Date
HOS-20140707-SG-WebSphereAppServer	HOS-20140430-SG-WebSphere	New Format	July 7, 2014

Table of Contents

Standard Service Description

1. **Standard Service Description**: Web Application Software 1.0: Managed IBM WebSphere Application Server is a Managed Hosting service (the "Service"). The standard features of the "Service" consists of the licensing, installation, configuration, administration, monitoring, maintenance and support for the software components listed in section 1.1. The Service Level Agreement (SLA) associated with this Service Guide is the "Managed Hosting Services SLA."

   1.1. **Software Components**: The IBM WebSphere Application Server software is available in the below supported versions with support for the following web servers:
      1.1.1. **Supported Versions**
         1.1.1.1. WebSphere Application Server v7.0x
      1.1.2. **Supported Editions**
         1.1.2.1. IBM WebSphere Application Server is built using open standards such as Java Enterprise Edition, XML, and Web Services which are listed in Table 2.0 Supported Editions in the Tables and Appendices section.
      1.1.3. **Supported Web Server Services**: IBM WebSphere Application Server requires the use of web server software. CenturyLink requires that CenturyLink manage all web servers under this Service. The following web servers may be selected:
         1.1.3.1. Microsoft IIS
         1.1.3.2. IBM HTTP Server
         1.1.3.3. Apache httpd

   1.2. **Licensing**
      1.2.1. **CenturyLink Provided**: As part of the standard service, CenturyLink obtains the software licenses required for the modules listed in section 1.1 under the IBM Agreement. Customer use of any IBM software is governed by the terms and conditions provided in the IBM License Information Document ("LI") and all licensing files. Located at http://www-03.ibm.com/software/sla/sladb.nsf
      1.2.2. **Customer Provided**: Customer has the option to obtain software licenses for the modules and versions listed in section 1.1.1 separately. If Customer chooses to obtain the licenses, CenturyLink will install them as part of the Service. CenturyLink requires that the Customer furnish the IBM Customer number, the Passport Advantage number and the IBM site number. Customer shall maintain both its licenses and a current Passport Advantage status for the duration of this Service. If Customer fails to furnish the information listed above, CenturyLink may, at its option, delay the deployment date or terminate the agreement.

   1.3. **Installation**: CenturyLink will provide installation tasks marked with an "X" in the CenturyLink column in Table 1.0 Roles and Responsibilities.
      1.3.1. Supported Operating Systems:
         1.3.1.1. Red Hat Enterprise Linux AS5 version 5.x (64 bit)
         1.3.1.2. Red Hat Enterprise Linux AS6 version 6.x (64 bit)
         1.3.1.3. Microsoft Windows Server 2008 R2 64 Bit
         1.3.1.4. Microsoft Windows Server 2012 64 Bit
      1.3.2. **Supported Hosting Platforms**:
         1.3.2.1. Intelligent Hosting
         1.3.2.2. CenturyLink Dedicated Cloud

   1.4. **Configuration**: CenturyLink will provide configuration tasks marked with an "X" in the CenturyLink column in Table 1.0 Roles and Responsibilities

1.5. **Administration**: CenturyLink will provide administration tasks marked with an "X" in the CenturyLink column in Table 1.0 Roles and Responsibilities.

    1.5.1. Access:

        1.1.1.1. **Unix-Based Servers**: For Customers running Red Hat or Solaris, privileges will be set by CenturyLink system engineering to provide Customers with the appropriate level of authorization on the system in order to manage their applications. Customer will have "sudo" access, which permits specifically authorized users to execute certain privileged commands without explicitly being root on the system. This recommended practice limits access to the system level configuration and resources that CenturyLink will maintain.

        1.1.1.2. **Production level environments**: CenturyLink maintains full ROOT or ADMINISTRATOR access on the managed server. It is CenturyLink's security policy that ROOT logins be limited to console access only. Any such access is logged. Full access to administrative functions by Customer is expressly prohibited in production level environments.

        1.1.1.3. **Non-production level environments**: CenturyLink understands that in certain cases, Customers need administration functions in order to effectively manage certain applications that are running on the server. In these cases CenturyLink will allow the Customer the necessary access; provided, however, such Customer access will be provided pursuant to separate terms defined by CenturyLink permitting such access.

1.2. **Monitoring**: CenturyLink will provide monitoring tasks marked with an "X" in the CenturyLink column in Table 1.0 Roles and Responsibilities.

1.3. **Maintenance and Support**:

    1.3.1. **Software and Security Patch Releases**: CenturyLink proactively notifies and schedules patching for any security vulnerabilities identified. CenturyLink certifies, approves, bundles and delivers the patches for installation in a Customer environment. Customer will submit a support ticket when they want to have a "non critical" patch applied. CenturyLink will apply the patches as part of the standard service. Customer must approve all patches prior to CenturyLink completing the work. Any Outages directly caused by Customer's failure to accept the implementation of a patch will not be subject to SLA Service Credits.

    1.3.2. **Fix packs**: All fix packs are evaluated and tested on the standard CenturyLink managed server configurations. CenturyLink will integrate the fix pack into the CenturyLink hardened; standard operating system build only after testing has demonstrated its stability and performance benefits. All applicable new managed servers will be automatically configured with this new base build. Existing production servers will be upgraded during maintenance windows that will be coordinated with the Customer. Any Outages directly caused by Customer's failure to accept the implementation of a patch will not be subject to SLA Service Credits.

    1.3.3. **Hot-Fixes and Patches**: All hot-fixes and non-security patches are evaluated for impact and urgency and follow the same testing and integration guidelines as fix pack upgrades. Non-critical patches and hot-fixes are typically incorporated into the CenturyLink standard system build on a quarterly basis. Customer must approve the installation via ticket or administrator access. Patch releases are considered in-place upgrades (see Definitions) Any Outages directly caused by Customer's failure to accept the implementation of a patch will not be subject to SLA Service Credits.

    1.3.4. **Maintenance Windows**: All times listed under the Scheduled Maintenance Windows are local times and subject to change. CenturyLink will use commercially reasonable efforts to perform routine maintenance only during the Saturday or Sunday defined maintenance windows. See Definitions for additional information

    1.3.5. **Support**: Support for the Service is provided through the project manager during installation, content migration and Customer validation. At the point of go-live the Service is passed from project management to CenturyLink Service Center for full 24x7 monitoring and management. The point of

go-live is when Customer notifies CenturyLink project manager that the environment is ready to go-live.

2. **Customer Responsibilities**: Customer is responsible for all tasks marked with an "X" in the Customer column in Table 1.0 Roles and Responsibilities. Customer acknowledges and agrees that its failure to perform its obligations set forth in Table 1.0 may result in CenturyLink's inability to perform the Services and CenturyLink shall not be liable for any failure to perform in the event of Customer's failure.

   2.1. **Customer-provided application software and licensing**: After CenturyLink completes installation of the standard service described in section 1.0, Customer may supply their own application software and respective licenses. CenturyLink does not provide any monitoring or management of Customer-provided software or services.

   2.2. **Provide Contact**: Designate and maintain a Customer Contact during the Service Term (including current contact information). "Customer Contact" means a technical point of contact available 24 x 7 with sufficient knowledge, authority and access to address configuration issues, event notifications, system or infrastructure modifications and authentication of applicable CenturyLink systems.

3. **Additional Services**: At Customer's option and expense Customer can choose to have CenturyLink complete one or more of the tasks in Table 1.0 with an "X" in the Customer column and/or the services listed below. The items can be added to the standard Service (described in Section 1.0) for an additional fee described in a separate Statement of Work ("SOW") or Service Order. Contact a sales representative for additional information.

   3.1. **Additional Tasks**: Customer can choose to have CenturyLink complete one or more of the tasks in Table 3.0 tasks not included in the standard service.

   3.2. **Minor Release**: Minor Releases (see Definitions) require a new installation of the software binaries, which is not included in this Service. CenturyLink recommends that Customer purchase a new managed server (via a Service Order) and migrate data (defined in a SOW) as a best practice.

   3.3. **Major Release**: Major Releases (see Definitions) require a new installation of the software binaries, which is not included in this Service. CenturyLink recommends that Customer purchase a new managed server (via a Service Order) and migrate data (defined in a SOW) as a best practice.

   3.4. **Changes to Plan Level**: CenturyLink Service plan costs are based on the number of support hours consumed on a monthly basis. CenturyLink monitors plan activity on a regular basis. If the number of support hours consumed by Customer exceeds the plan hours ordered on record, Customer shall be charged an additional service charge. The additional service charge will be calculated based on the number of support hours consumed above the allotted maximum monthly plan level at a rate of $225/hour and rounded up to the nearest 15-minute interval. After the initial installation and configuration of the Application Server environment is completed and accepted, any requests for additional application server installations will only be accepted through a change order. Change orders will be effective at the beginning of the next billing cycle following the date of the change order. Requests for downgrades of plan level will not be accepted during the term of the contract.

Tables and Appendices

Table 1.0 Roles and Responsibilities

Activity	Task	CenturyLink	Customer
Installation	Procure software (licensed via CenturyLink)	X	
	Acquire licensing and media permissions for the Service	X	
	Maintain and acquire a contracted support agreement with an agreed to vendor for the Service	X	
	Monitor license renewal activities, and manage the implementation environments for consistency	X	
	If Customer provided license, furnish the IBM Customer number, the Passport Advantage number and the IBM site number. Customer shall maintain both its licenses and a current Passport Advantage status for the duration of this Service.		X
	Maintain the middleware inventory and provide quarterly audits to ensure accuracy of the deployed products/environments	X	
	Provide installation and configuration of the requisite components related to the Service	X	
	Provide installation and configuration of the requisite components related to the Service and the applicable CenturyLink performance monitoring systems	X	
Configuration	Provide coordination and management of all Customer identified log resources	X	
	Perform application configuration integration as defined by the applicable performance analysis activities. The tuning activities noted in this responsibility are limited to the product configuration only and do not include code manipulation and/or application development	X	
Administration	Assist in the engagement and coordination of internal CenturyLink resources which are required to deliver pre/co-requisite services in support of the Service	X	
	Coordinate the planning of technical meetings and their participants between CenturyLink and the Customer/subscriber	X	
	Review the current/proposed environment for both the expected capabilities and efficiencies in support of the Service		X
	Develop and implement a project plan associated with transitioning the Customer's current environment in to the CenturyLink infrastructure in support of the Service	X	

Activity	Task	CenturyLink	Customer
	Identify and coordinate the inclusion of the applicable product specific file-system resources for the Service.	X	
	Identify and coordinate the inclusion of the applicable product specific resources for the Service	X	
Monitoring	Implement and review all applicable monitoring associated with the core Intelligent Agent product offering. This may include existing operating system and/or application specific monitoring	X	
	Coordinate and implement the functional log scraping and traps as defined by the Customer for the Service.	X	
	Provide coordination of problem management for the Service including: log/core collection and applicable environment configuration data	X	
Maintenance and Support	Provide coordination of problem management for the Service including: email/telephone availability and trap digestion	X	
	Coordinate problem management process from engagement to resolution	X	
	Coordinate upgrade of existing production servers during maintenance windows with the Customer	X	
	Provide coordination of problem management for the Service including: service escalation and Customer engagement	X	
	Generate email notifications of scheduled maintenance to Customer technical contacts in time to provide 48-hours (two business days) notice to Customer	X	

Table 2.0 Supported Editions

WebSphere Application Server Editions	6.1	7.0
Original Release Date	2006	2008
End of Support		
CenturyLink Supported	X	X
JDK	1.5	1.6
JavaEE	1.4	1.5
Servlet	2.4	2.5
JSP	2	2.1
EJB	2.1	3

Table 3.0 Tasks not included in the Standard Service

Activity	Task
Installation	Create and manage the functional load/stress testing for the Service
Configuration	Identify and coordinate the inclusion of the applicable application specific file-system resources for the Service.
Administration	Develop and implement a project plan associated with transforming the Customer's current environment from a different product and/or version such that it may be successfully integrated into the CenturyLink infrastructure in support of the Service
	Perform application development to be used in conjunction with the Service which may include, but is not limited to, the development of HTML, Java Script, Java, ASP, Applets,
	Coordinate and implement the functional availability testing of the environment (from an end user perspective) as defined by the Customer
Monitoring	Coordinate and implement the functional component monitoring and traps as defined by the Customer
	Perform application performance analysis for the Service
	Identify and coordinate the retention of all application packaging including, but not limited to, EAR/WAR/JAR/TAR resources associated with the application deployment and subsequent roll-back activities
Maintenance and Support	Retain the management and coordination of all activities associated with an environmental version control system.

Definitions

CenturyLink Service Center: The primary organization for resolving infrastructure issues that is staffed 24/7/365 to respond in a timely manner to incidents and requests pertaining to Customer IT infrastructure.

Compiled: The compilation function turns source files into directly executable or intermediate objects. Not every project will require this function. While for simple programs the process consists of a single file being compiled, for complex software the source code may consist of many files and may be combined in different ways to produce many different versions.

Cumulative Update: A grouping of Hotfixes or quick fix engineering updates that have not been fully regression tested by Microsoft but are designed to resolve specific issues with Microsoft SQL Server

Fix Pack: A fix pack is the standard delivery mechanism for software updates. A Fix Pack is a cumulative package of fixes, such as Fix Pack 2 (7.0.0.2). Each Fix Pack delivery can consist of multiple Fix Packs for the following components: Application Server, Application Client, Web server plug-ins, BM HTTP Server and Java SDK. Fix packs also install on top of a previous Fix Pack, such as applying V7.0.0.2 to V7.0.0.1. Fix Packs are cumulative, so V7.0.0.2 includes all fixes in V7.0.0.1. Fix Packs uninstall all Interim Fixes applied to the release since the last Fix Pack was installed.

Hotfix: A hotfix or quick fix engineering update is a single cumulative package that includes information that is used to address a problem in a software product.

IBM WebSphere Application Server: IBM WebSphere Application Server, a software application server, is the flagship product within IBM's WebSphere brand.

License Information ("Li"): A document that provides information and any additional terms specific to a Program. The Program's LI is available at www.ibm.com/software/sla

Maintenance Windows: A period of time designated in advance by CenturyLink, during which preventive maintenance that could cause disruption of service may be performed. Current Scheduled Maintenance windows are:

- Americas: Saturday 00:00AM to 5:00AM; Sunday 00:00AM to 5:00AM
- EMEA: Saturday 02:00AM to 6:00AM
- APAC (Except Japan): Saturday 21:00 (GMT) AM to Sunday 01(GMT)
- Japan: Sunday 04:00 (JST) to 8:00 (JST)

Major Release: Major Release: Major Releases (X.y.z) are vehicles for delivering major and minor feature development and enhancements to existing features. They incorporate all applicable error corrections made in prior Major Releases, Minor Releases, and Patch Releases. Software Provider typically has one Major Release per year.

Minor Release: **Minor Release**: Minor Releases (x.Y.z) are vehicles for delivering minor feature developments, enhancements to existing features, and defect corrections. They incorporate all applicable error corrections made in prior Minor Releases, and Patch Releases.

Non-Production Environment: A product is still being used theoretically. Users, typically engineers, look for bugs or design flaws.

Patch Release: A patch is a small piece of software that is used to correct a problem with a software program or an operating system. Patches are often called "Patch Updates" and are Critical or Security related.

Passport Advantage: Passport Advantage is a comprehensive program that covers software license maintenance options all under a single, common set of agreements, processes, and tools. It features specific solutions designed to match the way different businesses acquire software and maintenance services. Customers can order a single platform or many platforms; one product or an entire suite; for one location or a network of offices around the world. Passport Advantage offers consistent worldwide features and pricing, simplified acquisition, and multilingual licensing.

Production Environment: A production environment can be thought of as a real-time setting where programs are run and hardware setups are installed and relied on for organization or commercial daily operations.

Scheduled Maintenance Windows: A period of time designated in advance by CenturyLink, during which preventive maintenance that could cause disruption of service may be performed.

Service Level Agreement: A service-level agreement (SLA) is a document describing the level of service expected by a customer from CenturyLink, laying out the metrics by which that service is measured, and the remedies or penalties, if any, should the agreed-upon levels not be achieved.

Service Pack: A service pack contains all Hotfixes or Cumulative Updates since the last Service Pack or the initial Release to Manufacturing (RTM) version of the software.

SLA Credit: Service Level Agreement Credits are refunds given by CenturyLink to a Customer if the service falls below a contractually agreed service levels. See Section 1.0 for the SLA agreement associated with this service.

Software Binary: A binary file is a file whose content must be interpreted by a program or a hardware processor that understands in advance exactly how it is formatted.

Software: The database server software in binary form, any other machine-readable materials (including, but not limited to, libraries, source files, header files, and data files).

Software Provider: The third party that makes and sells software products described in section 1.0.

Upgrades: Upgrades mean a Major Release or Minor Release of the software.