



Spok Service Level Expectations

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Purpose

The purpose of this document is to clearly outline our mutual service level expectations including pre-defined roles and responsibilities across all of the Product platforms offered by Spok, Inc. ("Spok"). The term "Product", as used herein, means any of the hardware or software solutions you have purchased or licensed from Spok and/or any of its affiliates. Our objective is to properly manage expectations by clarifying system ownership, maintenance agreements and technical support services. We are confident that together, we can optimize your Product and services investment by giving you a complete description of all deliverables you receive as a valued Spok customer.

As outlined in this document, the maintenance and support agreement has been created to assist customers with issues, concerns or questions that may arise while using the Spok solution in a production environment. This document focuses on the Standard Maintenance Offerings. Information regarding Spok's other maintenance plan offerings is found later in this document.

We're confident you'll find this information useful in defining support expectations from Spok. We look forward to continuing to meet your needs as your long-term partner in mission critical communications.

The content of this document are incorporated by reference into Spok's Customer Agreement – Master Terms and Conditions ("Master Agreement"). Spok retains the right to amend this document in its sole discretion and without notice.

Contact Information for Support

Submitting Cases

There are two ways to submit a support request (case); phone and our customer web portal. Spok strongly recommends that customers report critical (priority 1 or 2) cases via phone so that we can immediately engage you with a support analyst. Spok processes cases based on priority. Once your Case is submitted, our dispatch team will route your support request to the group specializing in your request. Please note that due to the sensitive data stored within the Spok system, we permitted to accept support request only from authorized contacts.

Submit Cases via Phone

Americas and EMEA: (800) 420-9705

Asia-Pacific: 800 0167 19 (toll free within Australia)

+61 8 6240 0000 (if calling from outside Australia)

Submit Cases via Spok's Customer User Community

Access to the Spok customer web portal, is available at:

www.spok.com/myspok

Scope of Support Services

This section of the document will outline (at a high level) what is covered by Spok's standard maintenance contract and what is not covered. More detailed information is provided in our Service Catalog as to services provided by other Support maintenance programs and/Professional Services. Spok does not provide support on a time and material basis. Customers must have an active maintenance contract in order to receive services from Spok.

Spok will provide support for Spok application software, hardware and any third-party components purchased directly from Spok which are identified on the Software / Hardware Order Form as being eligible for support, and for which the customer is paying Spok maintenance to support.

Services Included

The following support services will be provided under a Standard Level Maintenance and Support agreement:

- Support based on the maintenance agreement purchased
- Access to support via phone and Customer Community
- Access to Customer Community for knowledge articles, training videos and case management
- A defined and documented escalation process for support cases
- Return Materials Authorization (RMA) of any hardware Product covered by your maintenance contract
- Ability to request service for problems, questions, assistance and guidance
- Installation of patches for Oracle and the Linux operating system performed during normal business hours (upon request)

Services Excluded

The following support services will not be provided under a Standard Level Maintenance and Support agreement. Many of these items are offered via Spok's Professional Services group. For more information, please reference the Spok Service Catalog.

1. Support services for customers who do not have a current maintenance agreement in place with Spok
2. Support service for the Spok system if the license maintenance or hosting fees have not been paid per the payment terms in the applicable agreement
3. Support services for any product not included in your Spok license agreement
4. Support services for any modifications or additions to the Spok Product done without the written pre-approval of Spok
5. Support services for enterprise Products that were not brought into production before the project was transitioned to support and/or has not met the criteria listed above in services included
6. Routine maintenance or support of hardware not covered by this document
7. Issues or changes needed as a result of changes to the customer's environment (including any PC installation packages created by the customer, upgrades to ancillary systems, etc.)

8. Application of Microsoft Windows patches.
9. Application of firewall and security patches
10. Vendor or system audits or system security adjustments
11. Business continuity or disaster recovery planning
12. Software or system configuration adjustments needed as a result of third-party system upgrades
13. Repairs to the Spok system (test and/or production) necessitated by:
 - a. Customer's relocation, movement, improper operation, neglect, or misuse of the Spok Product. Misuse may include excessive web browsing that interferes with resources needed for the Spok system or any other non-Spok authorized use that may interfere with the operating system.
 - b. Any customer-added software causing conflict to the Spok Product.
 - c. Customer's failure to maintain proper site or environmental conditions including, but not limited to, all network, electrical and telecommunications connections as specified by Spok
 - d. Any problems caused by the customer's agents or employees
 - e. Failure to provide remote access as agreed upon by the customer and Spok
 - f. Software problems resulting from hardware malfunction or improper hardware configuration not performed by Spok
 - g. Assistance in the restoration of a total Spok system failure (e.g. hard drive crash, environmental issues or VMware corruption)

Spok does not maintain customer backups. Spok does expect the Customer to maintain full system backups of their systems. See the section "[SYSTEM BACKUPS](#)" and "[BC/DR PLANS](#)" for further details.

Any software/configuration changes will be billed at the then-current rate for that resource. For information about the current billable rates, please contact Spok's Professional Services Group at servicerequest@spok.com.

Spok Support Model

Spok provides all support remotely from our Technical Support Centers (located around the world). Spok has proven that remote support is the most expedient way to resolve issues. In the event that on-site technical assistance is required to resolve an issue, Spok will determine the resource based on availability. If the cause of the problem is not found to be within the Spok Product, the customer will be billed for all travel expenses and time of the resource.

Restrictions that may Impact Spok

At Spok, we realize that our software is mission critical and we strive to provide the best level of support to our customer base. Over the past 30+ years, Spok has created a very successful support model which helps us achieve very high customer satisfaction experience. We take our obligation to support our customers very seriously.

While this is our standard, we understand that some organizations may have their own policies that conflict

with what we consider our best practices for timely support.

1. Customers who choose a remote access method or unique login requirements other than Spok's standard, which is SecureLink.
2. Customers that choose to restrict Spok's level of rights/permissions once in the system do so at their own risk.
3. Customers who do not adhere to Spok's hardware requirements or implementation Best Practices.

If your organization has chosen to use a restrictive remote access method, has implemented restrictions or configuration deviations you may experience services delays due to such decisions. This may include delays in service, issue resolution or failure to restore system functionality due to such limitations resulting from these decisions.

Remote Access for System Support

In order to quickly and accurately resolve issues, it is Spok's policy for a customer to provide Spok remote access to all equipment in which Spok is installed.

Spok has standardized on a remote access solution called SecureLink by SecureLink®. SecureLink is one of the only remote support solutions commercially available that puts the customer in complete control of when to allow remote access, who gains access, and what Spok can access while connected to your system. We believe SecureLink is easier to use, more secure, and will enable us to provide you with the best support. You may obtain more detailed information about the benefits of SecureLink from Spok's support staff or via SecureLink's website (www.SecureLink.com).

Important notes if you cannot use SecureLink

1. If your policies prevent you from allowing Spok to use SecureLink as the VPN, Spok will not be responsible for delays in service resolution response times.
2. If your policies require Spok to use a specific VPN Client, you must provide Spok with a copy of your preferred VPN client. If it is determined, by Spok, that your chosen VPN client software will not co-exist with our other VPNs that are already loaded, your maintenance will increase. Additionally, if Spok cannot install your chosen VPN client software successfully on our after-hours support machines, your maintenance fees will increase and will impact the time it takes for the support analyst to login to your system. Choosing to use your own VPN will impact the quality of support that Spok is able to provide.
3. If you require that Spok use a tunnel to access your system, Spok will charge an initial setup fee and a line item will be added to your maintenance contract to maintain and support your dedicated tunnel at Spok.
4. If your organization prohibits remote access for system support, your maintenance rate will increase. Please note: if your system support resources (with the assistance of Spok's technical

resource) are not able to resolve the issue and it is determined that Spok will need to come on location to resolve the issue, you will be charged the current daily rate plus travel expenses. Spok will do its best to schedule an analyst for travel, but must first provide resources to those customers who are adhering to Spok's Remote Access Policy. For this reason, Spok cannot guarantee turnaround time to be on-site.

5. If your organization uses Secure Remote (aka. Check Point) or Sonic Wall, this will affect your service levels and your maintenance fee will be increased. These VPNs have proven not to co-exist with the other VPN client software. For this reason, Spok has these VPNs loaded on dedicated workstations at Spok. If the customer experiences any problem, day or night the analyst must be present, in front of this PC, to obtain access to the customer's system.
6. If your organization uses dial-up access via a modem, your maintenance will increase.
7. The on call analysts will need access from an IP range outside that of Spok's core office range. Access within other IP ranges must be allowed in order to connect. If this is not permitted and alternate arrangements need to be made to connect to your system, issue resolution times may be delayed.

Remote Access Security & Restrictions

Spok recognizes that system security is very important and takes the security of your system very seriously. However, it is equally important that customer's do not lock down Spok's access to a degree in which Spok is unable to provide the support needed to ensure timely issue resolution. While connected to the customer's system, Spok requires that we be able to perform secure - files transfer to the customer system. It is also in the customer's best interest if our analysts have access to their desktop. Often times, Spok will use tools from their local machine to aid in troubleshooting your issue. Limiting access back to our machines while connected to the customer's system may impact our ability to resolve issues and/or may impact the speed of issue resolution.

Spok will complete the documents for security and access policies on behalf of Spok and its employees. Unique identifying information will be provided for each employee that requires access, however personal information such as date of birth, social security number, home address, etc. will not be provided. Based on the complexity of your security requirements, Spok may charge an additional Maintenance Fee to administer your on-going system security access requirements at Spok.

System Passwords

In order to provide full support for your solution, Spok requires the following login access to your various third-party operating systems and Oracle database:

- Linux servers: root access

- Windows servers: Local administrator access
- Oracle database: A user with 'sysdba' privileges
- SQL Server: A user with 'SA' privileges

As security is of the highest priority, Spok will only provide sensitive system information (e.g., such as system passwords) to individuals identified in the "Authorized Contacts". For this reason, it is important that customers keep their list of contacts up-to-date with Spok. This list is stored in the customer profile in Spok's help desk application.

Case Management

Overview

Critical cases should be phoned into Spok so we can quickly begin working on the issue. For non-critical support cases, customers can open a case via phone or our Customer Web Portal which requires a login and password to gain access. Once the customer has logged into the Web Portal, they will be provided with options, such as "Submit New" or "Case List."

Authorized Contacts

It is important to keep Spok up-to-date with accurate contact information for personnel authorized to contact Spok related to support matters for your organization. Due to the sensitive data stored within the Spok database, Spok will only accept support requests from authorized contacts. Typically, customers designate certain individuals or roles (such as the call center supervisor/manager or IT) to be the authorized individuals. Spok will add these individuals to your customer's profile in our help desk application. As security is of the highest priority, Spok will only provide sensitive system information (e.g., such as system passwords) to individuals identified as "Authorized Contacts". To have your contacts updated in our help desk system, please send an email to accountupdates@spok.com.

Under the Standard Maintenance and Support agreement, Spok will not accept support requests from end-users (including operators, organization end-users, nurses, physicians, etc.). Spok offers an alternate maintenance plans as an option for organization who would like end-users to be able to contact us for assistance. This is available as part of Spok's Managed Services offering.

The contact associated with a reported case will receive updates pertaining to that particular case. If alternate contact information should be associated with a reported case (e.g. phone number or e-mail address), this information should be given to the Spok analyst at the time the case is created. While the alternate information will be maintained in the record, status updates will only be sent to the primary contact. If the contact information changes during the duration of the case, it is the customer's responsibility to inform the Spok analyst handling the case of such a change. It is the responsibility of the designated contact to share necessary information or updates to others within their organization. If it is important for a group of individuals to always receive information about Spok cases, we recommend setting up a shared e-mail address within the customer organization that Spok will use to provide case updates.

Two Ways to Submit a Support Case

When a customer has a question or needs to report a problem to Spok, there are two ways they can contact Spok to submit the case. Authorized contacts can:

1. Open a case via the Customer User Community (www.spok.com/myspok)
2. Open a case by via phone – see below

Submitting a Support Request via the Phone: Americas and EMEA

To submit a support request via the phone, customers should call Spok's Technical Support Center at (800) 420- 9705.

- If you are calling to open a new service request, a support representative will open an case and gather the information related to your service request
- Calls will be routed to the appropriate Support Center and will be processed by priority
- If calling back on an existing case, the caller should provide this case number to the support representative who will transfer you to the analyst who is assigned to your case
- If you do not have your case number available the support representative can look it up for you

Customers need to train employees who have permission to call Spok on how to properly provide the necessary information to Spok when calling in a case. If a customer has staff members at multiple sites connecting to the system database, the caller must identify which site they are calling from to the Spok analyst. Failure to do so will not only delay problem resolution, but may impact the services running at another site.

Submitting a Support Request via the Phone: APAC

To submit a support request via the phone, customers should call Spok's Technical Support Center at 1800 016 719 (toll free) or +61 8 62400000.

- For new cases, the analyst will open a new case.
- If calling back on an existing case, the caller will be routed to the Support Engineer working on the case
- Customers should train their employees who call Spok as to how to provide information to Spok when calling in a case.
- If a customer has equipment at multiple sites connecting to the database, the caller must identify which site they are calling from to the Support Engineer. Failure to do so will not only delay problem resolution, but may impact the services running at another site.

Tracking Support Cases

For cases that are not resolved during the initial support analyst call, Spok's Customer User Community provides the easiest way for customers to see the status of their pending support case. If the customer needs to provide information to the analyst that is working on the case, they can add an activity through the Customer User Community, call the analyst on the phone or send an e-mail to the analyst through the e-mail address provided in the support case. Customers can also view a full history of all of their cases through the

Spok's Customer User Community. Authorized individuals can obtain access to the Spok Customer User Community, please contact Spok support.

Resolving & Closing Support Cases

Once an issue has been resolved, the assigned Spok analyst will reach out and inform the customer contact identified within the case that the case has been resolved. Spok uses the following guidelines when determining if a support case is ready to be closed.

1. The customer agrees that it has been closed, case has been resolved.
2. Work requests that fall outside the boundaries of the customer's maintenance agreement (see Spok Service Catalog).
3. Problem is determined to be caused by an alternate system; outside the Spok solution (e.g. the problem is not Spok related; a different solution which interfaces into Spok is experiencing an issue and/or it is determined to be an environmental issue).
4. A customer has become unresponsive to the Spok analyst's request for resolution confirmation or request for additional information. The analyst will make attempts to receive confirmation mutual agreement that the support case be closed. If we are not able to achieve this, the case will be closed. Please note, that if there is any reason to re-open a support case, Spok can do so upon request.
 - a. The customer must be contacted at least 2 times in total with a frequency in line with the severity of the case.
 - b. The case owner will make at least one of the two contact attempts by phone in order to ensure that the customer has received the response and request.
 - c. If Spok does not get an answer within five business days after the second request for information, then the case will be closed.

For customers requiring a root-cause analysis, one may be requested for Priority 1 issues. Priority 1 cases include complete system outage, database outage or an enterprise application outage. Root-cause analysis may take up to five business day to complete after the system outage.

Escalating a Support Case

Americas and EMEA

If an existing support case increases in priority and the Spok employee managing the case cannot be reached or the customer is experiencing a major outage or feels that their case is not being handled in accordance with the Spok Case Management Resolution Matrix it is within their rights to contact Support Management and/or request that their support case be escalated. To do this, please call (800) 420-9705 and request to speak to management. Spok has management available 7x24x365.

Ongoing heightened case visibility, when needed on a case by case scenario, will be provided by the Product Support Manager assigned to the applicable solution set that will be directly responsible for the solution of such issues.

APAC

The APAC support center follows a case management escalation structure and has team leads in place to monitor the case resolution and to utilize specialists where needed. If the customer feels that their case is not being handled in accordance with the Spok Case Management Resolution Matrix, it is within their rights to contact Spok management as outlined below.

- Customers should call the APAC support office at +61 8 6240 0000
- Follow the telephone system prompts if it is for after-hours support
- Call the phone number provided for after-hours support and be prepared to provide your access number
- If you experience problems with the after-hours telephone number or a Support Analyst does not respond in the appropriate time, the customer may elect to contact Spok's USA office: +01 800 420 9705 and ask for the manager on call

Case Management Priority Codes

The following are the support cases priority codes currently used by Spok:

- Priority 1: Critical Business Impact
- Priority 2: Severe Business Impact
- Priority 3: Minor Business Impact
- Priority 4: No / Minimal Business Impact

Case Management Resolution Matrix

ISSUE PRIORITY	SPOK RESPONSE	SOLUTION UPDATE	WHAT HAPPENS
<p>Priority 1: Critical Business Impact</p> <p>A customer encounters a system problem that has caused the customer's work to stop or to be so severely impacted that the customer (either the entire call center or all enterprise users) cannot continue to work.</p>	<p>The customer will immediately be connected with an analyst during the day. After hours, Spok will respond as quickly as possible (on average this is within 10 minutes).</p>	<p>The customer can elect to stay on the phone with the analyst or the customer can elect to receive hourly updates until there is a resolution.</p>	<p>Spok Technical Support will work around the clock until an agreed upon resolution is achieved. If the resolution is temporary, the issue will be worked until a permanent resolution is identified.</p>
<p>Priority 2: Severe Business Impact</p> <p>A customer can continue to work but has a problem that has caused the customer's (either the entire call center or all enterprise users) work to be severely impacted.</p>	<p>The customer will receive a response within 30 minutes of Spok receiving their request.</p>	<p>The customer will receive an update every two hours until there is a satisfactory resolution or workaround.</p>	<p>If a resolution is not achieved within 1 business day, the issue will be escalated to the Technical Support Management Team.</p>
<p>Priority 3: Minor Business Impact</p> <p>The customer's work is continuing (not stopped); however, the problem is causing an impact on the Customer's productivity and/or service levels.</p>	<p>The customer will receive a response within 1 business day of Spok receiving their request.</p>	<p>The customer will receive an update each week or as necessary until there is a satisfactory resolution.</p>	<p>Spok Technical Support will work normal business hours until a satisfactory resolution is achieved.</p>
<p>Priority 4: No / Minimal Business Impact</p> <p>The customer is in full working mode. The problem is not affecting or is minimally impeding the customer's work.</p>	<p>The customer will receive a response within 1 business day of Spok receiving their request.</p>	<p>The customer will receive an update each week or as necessary until there is a satisfactory resolution.</p>	<p>Priority 4 issues are resolved as time allows.</p>

Change Management Process

Application Product Enhancement/Change Requests

Spok's Change Management Process aims to ensure that standardized methods and procedures are used for efficient handling of all planned changes in a production environment. While many changes to the Spok Products can be easily made through configuration settings within the applications, some changes are more complex and may require the actual software application to be modified. If you have requested a change to your Product and the change cannot be quickly addressed through a change in configuration settings, you will be routed to Spok's Professional Services Group for assistance. In order to adequately plan for and support your change, Spok requires a minimum of two weeks' advance notice for such requests. Spok may not be able to perform last minute changes requested by customers. Spok recommends that customers adhere to industry best practices by scheduling system changes on a Monday, Tuesday or Wednesday to ensure that the right resources are available for Spok and the customer. Additionally, it is important to remember that modifications to your software may impact your future ability to update/upgrade your software and will likely result in additional service hours to address the presence of non-standard code.

Change Control

To properly support your Product, it is important that both the customer and Spok adhere to a unified change control process. This is critical so that any changes put in place are properly planned, implemented and tested. Following this process also ensures that changes are properly documented for on-going support which will make it easier to carry these changes forward during upgrades that may come in the future.

Spok Change Control Process

The Spok Change Control Process (CCP) defines how Spok implements changes on a customer's production system. A change can be either a Product Fix or an Enhancement Request from a customer. In either case the same process will be followed by Spok.

Previous Enhancement Verification

Once it has been determined that a change will be made on a customer site, Spok will verify the state of existing Product. This will be accomplished by checking the customer information in the Spok help desk solution to see if the customer has customizations already in place that will be affected by the change.

1. For a Product fix: a Spok Support Engineer will work with Development to ensure the fix includes previous customizations.
2. For an Enhancement Request: a Spok Professional Services project manager will work with Development to ensure that previous customizations that may be affected by the change are merged into the new enhancement. The customer will be notified if previous customizations will be affected by the new enhancement.

Product Change Testing

All changes must be tested prior to being applied to the customer's production system. When possible, a Spok Support Engineer will test the change on a system at Spok or on the customer's test server which allows for pretesting prior to putting the change into production. If possible, Spok will have the customer connect to the test system to verify the change and enable the customer to sign-off on the change prior to scheduling the installation on the customer's production system.

If the customer has a test server, Spok recommends that changes be tested on the test server. Once Spok has verified the change, Spok will contact the customer to let them know that it is time for the customer to test the functionality of the change and to verify that all previous enhancements are still correctly working. The customer must sign-off that the change is accepted prior to putting the change in place on the production system.

Product Change (Enhancement) Application

Spok requires that the customer be present and an active participant when a new change is being put in place on a customer's production system. Spok and the customer will schedule a time to put the change in place and will create a back out plan in case the change causes a system problem. Once the change is put in place, Spok and the customer will fully test the change to ensure everything is functioning as expected. If there are any problems with the Product during the system test, Spok will back out the change. The Product (without enhancement) will then be verified again by both Spok and the customer as being in working order. If the change does not cause any issues and the Product is successfully verified by both Spok and the customer, Spok will then require the customer to sign-off that the change was successfully implemented.

Customer Environment Changes

Spok's Change Management Process aims to ensure that standardized methods and procedures are used for efficient handling of all changes. While many changes to the Spok Products can be easily made through configuration settings within the applications to accommodate an environment change, some changes are more complex and may require the actual software application to be modified. It is best practices for customers to plan well in advance for changes which may impact their Spok system. In order for Spok to support any change requests, Spok should be contacted well in advance of the date in which the change is needed. Spok may not be able to perform last minute changes requested by customers. Additionally, it is important to remember that modifications to your software may impact your future ability to update/upgrade your software and will likely result in additional services hours to address the presence of non-standard code. It is the responsibility of the customer to review all integrations to Spok solutions for compatibility. The Spok Compatibility matrix can be found in Spok Knowledge via this link: www.knowledge.spok.com, and search for the words "compatibility matrix"

It is the customer's responsibility to notify Spok at the minimum 2 weeks in advance of any planned changes that may impact the Spok Solution including, but not limited to, operating system upgrades, network changes, data center changes, system moves, paging vendor changes and PBX changes. Hardware changes might require re-licensing of certain parts of software. Spok will not be held responsible nor will the current

Support include system issues related to customer changes or service response delays due to a lack of communication by the customer.

Spok recommends all new installations of third-party software be done on a test system first and discussed with Spok support to ensure no known conflict exists.

Planning for Change

When a customer becomes aware that they will be changing (or upgrading) their environment or a third-party application/system to which a Spok Product interfaces, it is a **requirement** that Spok be involved in the change process and a customer must fill out a Spok Services request form to ensure that Spok is properly engaged. Spok will assign a designated resource and potentially a project manager based on the impact the customer change will have on the Spok Product and/or related interfaces. The engagement of Spok's Professional Services group will ensure that Spok has the necessary resource(s) available during the time that the customer has scheduled for the change to occur and that the Spok system will continue to function properly after the change has occurred. If a customer modifies their environment without notifying Spok and the results of this change causes an issue to the system they will be routed to Professional Services. If a customer reports an issue to Support and does not reveal that they modified their environment, Spok reserves the right to charge the customer for time spend troubleshooting due to lack of information from the customer.

Achieving Success When Implementing Changes

Industry studies show that when implementing changes to a production environment, they should first be implemented in a test system and thoroughly testing should take place in the test environment prior to implementing the change in the production environment. Spok requires that all customers have a test system. Failure to have a test system that can be used to test the change puts the production system at risk. Spok will not be held responsible if changes are not successful when implemented directly into a production environment.

Unplanned Changes

At times, changes occur to a customer's environment or a third-part application or system to which Spok interfaces to that are not coordinated with Spok prior to the change happening ("Unplanned Change"). When an Unplanned Change occurs, Spok may not have the proper resources available to perform to assist a customer to ensure that the Spok system properly functions after the change(s) occur. Upon receiving a request for assistance, Spok will attempt to find a qualified resource but will not be able to commit to response times. Due to the disruptive nature of Unplanned Changes, Spok will assess a higher rate for any services provided. This higher rate reflects the increased and urgent nature of the work that will be required to restore the system to a fully functional state. If Unplanned Changes occur after normal business hours, it is important to note that due to reduced staffing during these hours, Spok may have limited resources available to provide assistance and cannot guarantee a response time. If development resources are needed after normal business hours, and it is determined that a work around is available, Spok will commence work the next business day. Any Unplanned Changes performed after normal business hours (patches, changes or enhancements) are billed at the then- current non-premium plan rate.

System Ownership

In order to keep the solution performing optimally, it is important that the customer ensures ownership of key areas of the system. Following are the key areas that Spok has identified and strongly suggests that customers designate ownership for the following aspects of the solution. Not all topics will apply to each customer. This is a broad representation of ownership for all of our applications.

System Data and Database

The customer will be responsible for verifying the accuracy of the data that is loaded during the installation (or upgrade) and for the on-going maintenance of the data within the Spok Product. While Spok may or may not be the main avenue for populating the customer's database initially, the customer is the owner of, and ultimately responsible for, the accuracy of data. Spok can provide professional services (at an additional cost) to help our customers create new database update feeds or other database administration tasks.

Customers are also responsible for maintaining proper archival records and storage methods of the archived data from the Spok system. Customers are responsible for future retrieval of archived data. Spok can assist in the retrieval of archived data via our Services group.

Spok Messenger Solution

It is the customer's responsibility to know what method is used to reach every messaging device associated with the database. The customer is also responsible for testing and ensuring the successful setup of each device in the system.

The intended use of the Spok® Messenger (Messenger) solution is to provide an interface with clinical systems to forward information from a particular event to the designated display device(s).

For situations where medical, near real-time alarms are being forwarded to designated display devices, Spok Messenger is intended to serve as a parallel, redundant, forwarding mechanism to inform healthcare professionals of particular medical-related events. Spok Messenger does not alter the behavior of the primary medical devices and associated alarm annunciations. The designated display device provides a visual, and/or audio and/or vibrating mechanism upon receipt of the alert.

Spok Messenger is designed, marketed, and sold as a secondary notification system. It should not replace the primary notification system or alarming mechanism.

Paging

It is the customer's responsibility to know what method is used to reach every pager/messaging device that is entered into the Spok database. For every device entered, the customer must also know the pager id along with the multiple access points and accessibility. The customer is responsible for testing and ensuring the successful setup of each device in the system.

Transmitters

Spok does not have the ability to remotely resolve transmitter issues. If a transmitter that has been purchased from Spok experiences an issue, the customer will be required to return the transmitter to the designated Spok office for diagnostics and repair. Tuning and resolving transmitter issues requires that transmitters be connected to specialized equipment at our repair facility. Spok strongly recommends that customers purchase a spare transmitter which can be used if the primary transmitter is being repaired.

Spok transmitters can be setup in a redundant configuration to automatically fail-over by use of TNPP or a Script. It is important to note that these configurations would only be 100% reliable if the primary transmitter completely failed. Spok recommends that customers switch between transmitters on a quarterly basis to ensure that both are being utilized and are properly functioning.

Transmitters that are sent in for repair or replacement with a specialized or unique frequency may be subject to delay, based on availability. Please reference the Return Materials Authorization (RMA) section of this document for repair information.

Antennas

Spok does not have the ability to remotely resolve antennae issues. If an antenna purchased from Spok experiences an issue, the customer may either (i) contact the company who performed the installation to troubleshoot the issue or (i) send the antennae to Spok for diagnosis and correction.

Antennas that are sent in for repair or replacement with a specialized or unique frequency may be subject to delay, based on availability. Please reference the Return Materials Authorization (RMA) section of this document for repair information.

Speech

Upon completion of training, it is the customer's responsibility to know how to maintain their Speech Product. Spok's Speech Products use specific database fields when listening to a caller's speech request. If the name that is entered in this field is not the name that a caller will request, it is the customer's responsibility to enter an associated alias that specifically matches how callers will request the person or department. If a person or department name is not recognized in the manner in which a caller speaks, it is the customer's responsibility to 'tune' the database so that the Speech application can most effectively operate. Spok can provide additional training (for a fee) on how to listen to utterances and call logs, analyze call data and on how to tune names that are not successfully being handled by the Speech application. Spok recommends that customers review their Missing Names report on a weekly basis when first going live on the Speech product in order to make appropriate adjustments. After an initial period, there reviews can move to monthly thereafter.

Customers that have purchased the Speech Services package will receive the following services from our

Speech Services Center of Excellence:

- Access to a designated Speech Technician
- Professional name/prompt recording
- Customized prompt design (adjustable at any time)
- 24 Hour voicemail box
- Weekly reports of call transactions
- Transcribed reporting of all missed calls
- Names that are not included in the existing vocabulary (weekly report provided)
- 24/7 support live coverage

Computer Telephony Integration

The ability for operators to process calls from the Spok Operator Console Products are based on an interface to the customer phone system. Any changes, patches or upgrades to the customer phone system may affect a Spok Operator Console application. **Customers are required to contact Spok prior to upgrading their PBX system in order to ensure that their Spok Operator Console application is compatible with the new system.** If the customer is using “first party call control”, it is important that they contact Spok before making any changes to the telephone sets used by the operators. First party call control is defined as being an environment where the phone connects directly to the PC via a serial cable.

If an upgrade to the PBX system causes issues or necessitates changes to the Spok Operator Console application, Spok will charge the then-current standard hourly support rate to diagnose or fix any resulting problems. If the customer requests that a specialist be available after normal business hours to assist with these changes, Spok will charge the then-current hourly rate of the technical resources involved.

A customer is responsible for the support of any third-party telephone switches (and associated software) which is not purchased, installed or supported by Spok, including the servers and/or PCs upon which the Spok Operator Console software runs. Spok will only support the portion of the interface (written by Spok) used between these switches and the Spok Operator Console application. All administration and maintenance of these third-party applications and servers are the responsibility of the customer. It is important that a customer contact Spok prior to changing or upgrading any of these third-party applications in order to confirm that Spok’s applications are certified to operate on the version of software associated with your switch upgrade.

PC Local Database Backup

The Spok PC Database Backup applications (Acronis Imaging, Fail Safe and Smart Refresh) are programs that take a snapshot of the core data from the master (server) database at a predetermined time each day and copies it to each operator console workstation. Acronis Imaging, Fail Safe and Smart Refresh are used by operators in the event of a network outage or a database/server related issue. Spok recommends that customers test the Fail Safe and/or Smart Refresh Product on a weekly basis on all operator PC workstations.

Spok Mobile®

Spok Mobile is a mobile messaging application that enables messaging between Spok and third party systems and a mobile device. The Spok Mobile product uses a number of delivery technologies to deliver the messages to and from the mobile device in a timely manner.

Registration / Setup

The Spok Mobile product uses a Spok hosted registration service. This service enables a mobile device and its installed application to be linked back to each independent customer site. This service is required for new device setup, changing device delivery technologies and device registration removal. Spok provides this service as a part of the Spok Mobile product subscription and is generally available at all times. Spok from time to time will perform maintenance and upgrades on the registration service. These maintenance and upgrades will be done without service interruption whenever possible and during scheduled maintenance windows.

Message Delivery

The Spok Mobile solution can use either the customer's premise or Spok's hosted server infrastructure to deliver messages to the device. Which server(s) are used is dependent upon the customer's installation configuration and selected delivery technology.

Premise Server

The Spok Mobile solution will always have a server installed at the customer premise. This server may reside on a physical or virtual server. Uptime and availability of the premise server is the responsibility of the customer. The Spok Mobile premise server will require network access to external or internal servers to function properly. Network access to these internal and external servers is the responsibility of the customer. The Spok Mobile premise server may include SMS delivery devices and services. Subscriptions to these SMS delivery devices and services are the responsibility of the customer. Customers can improve the reliability of the premise software by deploying the Spok Mobile premise server and Spok Messenger software in redundant application and database server configurations.

Hosted Server

The Spok Mobile solution uses a hosted server for the delivery of some types of messages (BIS, Apple, Android, SMS) and for registration services. Spok maintains relationships with the smartphone platform providers for access to their push notification systems. To provide reliable access to push notification services, Spok centralizes the push notifications through our hosted infrastructure. To simplify secure delivery of messages to devices, the Spok Mobile hosted server provides a centralized message download service that is available to any device on any mobile network.

Message Push/Notification

The Spok Mobile solution uses a variety of push technologies to allow timely delivery of messages to smartphones. The push technologies are beyond the span of control of Spok and service interruptions / delays can result from maintenance or downtime associated with these services. When Spok becomes aware of a planned or unplanned outage or service degradation, we will notify customer's assigned technical contact. Spok is not required to be notified of these events in advance and such notice is provided as a courtesy.

Apple

Apple Push - Push Notifications using Apple's Push Notification service requires the availability of the network access to Spok Mobile hosted server and the availability Apple push notification service. Service interruptions or delays in these elements will result in service disruption or delays.

Android

SMS Push – Push Notifications using SMS requires the availability of the network access to Spok Mobile hosted server and the availability of the SMS sending provider. The supported network provider is AT&T for SMS sending via Cellular Messaging Module (CMM). Service disruptions in the sending or receiving carriers SMS infrastructure will result in service disruption or delays.

Android C2DM Push – Push Notifications using Android's Cloud to device messaging (C2DM) Push Notification service requires the availability of the network access to Spok Mobile hosted server and the availability C2DM push notification service. Service interruptions or delays in these elements will result in service disruption or delays.

Cellular/Wi-Fi Networks

The Spok Mobile product uses cellular and Wi-Fi networks for wireless connectivity to premise and wide area networks. The wireless networks are beyond Spok's control and service interruptions / delays can result from maintenance or downtime associated with these services. When Spok becomes aware of a planned or unplanned outage or service degradation, we will notify customer's assigned technical contact. Spok is not required to be notified of these events in advance and such notice is provided as a courtesy.

Spok Mobile Scheduled Maintenance

Spok maintains scheduled maintenance windows during the following periods.

- Sunday/Monday 11:00pm to 3:00am Central Time
 - The central time zone will be used if affecting multiple areas
 - Used to implement, remove or change a system or application that changes the existing features or architecture.

Spok will make every effort to notify the customer's assigned technical contact 2 weeks prior of a planned schedule maintenance window that is expected to result in a service disruption. During these Spok Mobile maintenance windows, registration and message delivery may be interrupted or delayed. Spok will not

schedule more than 8 scheduled maintenance windows per year that result in any service disruption or delay.

Spok Mobile Unscheduled (Corrective) Maintenance

Spok maintains Corrective maintenance windows during the following periods

- 7 days a week between 11:00pm and 3:00am Central Time
 - The central time zone will be used if affecting multiple areas.
 - Used to correct a failing system or application that may cause an impact to the customer base if not corrected, but is not yet impacting services, and does not change the documented features or architecture.

Spok works to prevent any unscheduled maintenance through the development of high-quality software and redundant hosting deployments. In the event of an unscheduled maintenance window of the Spok Mobile hosted server lasting more than 15 minutes, Spok will contact the customers assigned technical contact within 1 hour with information regarding the unscheduled maintenance and expected time of completion.

Spok Mobile Service Level Expectation Summary Chart

SERVICE COMPONENT	CUSTOMER EXPECTATION	SPOK EXPECTATION	THIRD-PARTY EXPECTATION
Spok Mobile Premise Server / Spok Messenger	Maintain server hardware, modems, network access and database server, if applicable	Maintain Spok's applications running on the customer server(s) to include Spok Mobile and Spok Messenger	X
Local Area Network / Access to Required External Network	Maintain connection to internal LAN and external connections to Spok Mobile hosted server	X	X
Spok Mobile Hosted Server	X	Maintain hosted environment Notify customer of planned and unplanned outages	X
Push Notification System	X	Notify customer of planned / unplanned outages when known	Apple, Android and cellular carriers
SMS Infrastructure	Customer maintains account with provider for sending account	Notify customer of planned / unplanned outages when known	Provider of sending account provides send access, receiving party provider provide SMS connectivity
Cellular Network	X	Notify customer of planned / unplanned outages when known	Provider provides data and SMS connectivity
Wi-Fi Network	Provide access to internal Wi-Fi network for devices	X	X

System Alerts

Spok sends important system information on a near real-time basis to the operators and administrators. Spok recommends that customers always monitor the System Alert messages.

System Redundancy

For customers that have redundant system architecture, it is important to routinely test the system redundancy. A system's redundancy is only as good as the last time you tested it and Spok recommends server redundancy testing on a quarterly basis. Under Standard support, customers will be entitled to assistance with one failover test request per year. Additional assistance can be obtained via Spok's Services group.

Routine System Maintenance

The customer is responsible for carrying out the maintenance tasks covered by the System Maintenance manual. Spok offers Professional Services to assist customers in becoming proficient with their system maintenance tasks.

Archive Message Data Recovery

It is the customer's responsibility to manage the process of message archive data recovery. For customers who have an active support agreement in place, Spok will explain this process to a customer who needs a brief refresher course or has a new employee to train. If the customer needs assistance from Spok to recover this archive data, this service can be provided on a billable basis.

It is also the customer's responsibility to understand how to run reports for archived data needed by their organization. Spok provides documentation to all customer as to how to report on archive messages and data. Customer's requiring assistance will be routed to Spok's Professional Services Group.

Test Systems

Spok highly recommends that all customers have a test system due to the mission critical environments of our customers. If you have purchased a test system, please remember that this is intended for testing only. A test server is not intended to also serve as a backup of your primary server. Spok will provide an initial data population for your test system. Spok has developed a tool (which can be purchased) which customers can use to periodically refresh the test data on their test system.

System Backups

As with all other software solutions, Spok highly recommends that customers have Spok servers and applications included into their corporate backup utility. It is equally important that customer s routinely test

the restoration process on a test server. Spok does not write your backup files to our facility, nor is Spok responsible if your backups are not successful.

Spok understands that many customers are migrating to newer technologies such as enterprise backup tools. If you have an enterprise backup solution that you would like to use for your Spok applications, your Spok project manager will provide a resource during your implementation who will answer any questions to enable your team to incorporate Spok into your enterprise backup solution. Spok does not install any backup client software on our servers or provide support for other third party backup solutions. It is the customer's responsibility to always know the status of their backups.

Regardless of what backup method your institution chooses to use, you are responsible for having a current backup. Your system is only as good as your last good backup. System restorations are billable (please see Spok Service Catalog).

For IntelliSuite and Xtend Suite platform customers, it is important that you implement the Skip List provided by Spok so that you do not backup open files.

The Spok Smart Suite platform solution includes the installation and support of our backup routine which uses the Oracle RMAN (on-line/hot) backup tool to backup the Oracle database and Spok application files. This backup routine does not backup the Linux operating system. This routine begins with the creation of Oracle archive log files.

After the database files have successfully been written to archive log files, Spok uses the Linux commands to write these files to a backup location on the Spok database server (by default). Every night, at the conclusion of the backup, a report is generated. This report will be sent to any number of contacts that you provide to your Spok Project Manager. It is your responsibility and it is mandatory that a qualified person read this report each day and to notify Spok of any errors generated in this report. If your backup report is being e-mailed or printed to a specific person(s), it is the customer's responsibility to notify Spok if that e-mail destination changes. Spok does not write your backup files to our facility, nor is Spok responsible if your backups are not successful.

The Smart Suite platform prints various reports each day that must be reviewed by a qualified person at your organization. If you find any errors in these reports, it is important that you contact Spok at your earliest convenience and report these errors by opening a support case.

In the event of a catastrophic hardware failure, Spok support will work with you to minimize impact. Spok requires that you have a full working system backup that includes Operating System configuration, applications and data which can be restored onto the replacement hardware. BC/DR PLANS

The Spok solution should be incorporated into your institutions BC/DR plans even if you have implemented Spok as a redundant solution. Spok can work with your organization on remote agent options and recovery plans. To engage Spok's Professional Services group for this type of planning, please ask your Spok sales or technical support representative.

Multiple Sites

If your organization has multiple sites using Spok's solution, it will be necessary for you to establish an internal process to determine who will contact Spok when a problem arises. This will help to expedite the resolution of your issues.

Operating System Support

Servers

Spok will support the RedHat Linux operating system for the servers running Spok's application software. It is the responsibility of the customer to support the Microsoft Windows operating system for the servers and PCs running Spok's application software. To properly support the RedHat Linux operating system, Spok requires "root" access. If you change the root password, please notify Spok immediately. Failure to do so can lead to delays in issue resolution. It is a requirement that IntelliSuite and Xtend Suite platform customers implement the Antivirus exclusion, Skip List provided by Spok for virus scanning and backup utilities.

The Spok software applications you have purchased are written to work with very specific versions of the operating system software. Should you want to upgrade your operating system software, it is required that you check with Spok prior to upgrading. Spok will provide patches and apply patches as outlined in the System Patch section of this document.

If you alter the operating system from the initial Spok installation, you will be solely responsible for the maintenance and support of the altered operating system changes.

If the customer directly licenses RedHat Linux, the customer will be responsible for registering it with RedHat and for maintaining the operating system updates. In order to receive RedHat updates and patches, Spok or you must be able to register your license with RedHat and the server must be able to receive updates from the RedHat website.

Operator PC Workstations

You will be responsible for supporting the operating system of the PC workstations including the application of any PC operating system patches. It is required that you contact Spok prior to upgrading the operating system of the PC workstations to a different version of Windows (e.g. Windows 7). Spok's PC applications are written to be compatible with specific versions of operating system software. Until a new release is tested by Spok, it is not known if the newer version of operating system software will be compatible with the Spok PC application software in use at your facility. If you upgrade the operating system software of the PC workstations without prior written consent from Spok, you will be charged for Spok's support time to any issues related to this.

While all of Spok's PC applications are native Windows applications, Spok will not be held responsible for any program that your organization may install that causes problems with Spok's applications and vice versa.

The operator PC applications have been developed to work with the version of the Windows operating system that they were installed with. If the customer loads any other operating system on a PC other than

this version of operating system software, the Spok applications may not function properly. If it is necessary for Spok to assist with the installation and configuration of the Spok software on a newer Windows operating system the customer will be billed at the current hourly rate until all issues related to the Windows upgrade have been resolved.

Database Support

Spok will be the first point of contact for issues related to the database (RDBMS) and will provide support for the database associated with the Spok application. Spok will tune the database and will extend the storage capacity of the database as needed by the applications. Spok will troubleshoot any database related issues and will work with Oracle or Microsoft if necessary to resolve any such issues.

If you alter your Oracle, Microsoft Access, or SQL Server database from the Spok installation configuration, you will be solely responsible for the maintenance and support of the database.

Note: If you apply Oracle patches that cause problems to your system, Spok will attempt to provide assistance in resolving such issues at the then current hourly rate.

De-Supported Operating System, Database Platforms, and Spok

When a version of the operating system, the Oracle database or Spok software becomes de-supported, a communication will be sent to all customers via the Spok newsletter. When versions of the operating system, database or application software become de-supported, patches will no longer be available. If the root-cause of a problem is found to be associated with a de-supported product, the customer will be notified and will be provided with upgrade information.

System Patches

Spok only applies application patches during regular business hours under the Standard Maintenance Plan.

Operating System Patches

Both Microsoft Windows and RedHat Linux release frequent operating system updates for security and other issues. These updates can occur as frequently as weekly and can be configured to be pushed through automatic update capabilities to the various machines.

Spok normally sets up systems during customer implementations to receive and apply these updates automatically. The upside of protecting systems quickly from known threats outweighs any potential risks of software incompatibilities which Spok has found to be almost non-existent. Spok themselves receives these automatic updates on the machines used to develop, test and support customers so they are acting as internal early adopters with these software updates.

Spok does not proactively test these operating system updates across their suite of solutions but instead

focuses on deeper testing of the Spok software. This focus has been proven to Spok to result in higher quality and more reliable overall solutions.

As an alternative, the customer may choose to turn off automatic updates and manually pull their own patches down from the operating system provider and apply them to their test and/or production systems. Spok stands ready to offer guidance through our technical support department when applying these patches during normal business hours for Standard Plan customers and during alternate off-business hours for Premium Plan customers. Should the application of a Windows patch cause a problem with your Spok system, Spok Support will help troubleshoot the incident at no cost. Spok might need you to back out the patch to minimize impact while we assist in troubleshooting the problem.

Oracle RDBMS

The Oracle supplied patch policy only applies to versions of Oracle that Oracle Corporation supports, not versions that are unsupported by Oracle. Not all Oracle patches apply to the Spok installation base. Oracle Corporation releases patches on a quarterly basis. Upon request, Spok will install Oracle patches during normal business hours unless the customer specifically requests that the patch be installed after normal business hours. If the customer is on Spok's Premium Maintenance Plan, the customer may request that the patch be installed after normal business hours. Standard and Select Maintenance Plans can request that Oracle application patches can be installed after normal business hours at the then current Professional Services rate with a four hour service minimum.

Application Software Critical Patches

This Spok supplied patch policy only applies to versions of software that Spok supports. Not all Spok patches apply to all installed customers. There are many variables such as product version, environment and use patterns (specifically what features are used and how they are used).

Upon issuance of patches by the Spok Development Department, the Spok Quality Assurance (QA) team performs compatibility testing. This is to include all software modules and configurations as required. Patch test plans and release cycles are dependent on the nature of the patch and affected programs and are case specific as appropriate. Formal patch release processes and procedures are followed.

When the QA team has successfully tested and the patch has shown to have no adverse effects, Spok will determine those customers that will be directly impacted by the patch. Impacted customers will be contacted to coordinate a time to have the patch installed on their system.

All application patches are installed during normal business hours unless the customer specifically requests that the patch be installed after normal business hours. If the customer is on Spok's Premium Maintenance Plan, the customer may request that the patch be installed after normal business hours. Standard and Select Maintenance Plans can request that Spok application patches be installed after normal business hours at the then current Professional Services rate with a four hour service minimum.

Network Support

Spok does not support your network and the performance of the Spok Products is highly dependent on

network performance. If network performance between the components of the Spok Product is degraded, then the performance of the Spok application will be degraded. Also, slow performance between the Spok Product and external servers such as your DNS servers, mail gateways, and paging vendor's servers can affect the throughput of paging and messaging applications.

Spok recommends that your network infrastructure be able to maintain 100Mbps speeds between the Spok database servers and database clients. Latency should not exceed 325ms round trip between the database server and clients for reasonable performance. It may be necessary for certain applications to traverse WAN connections and web applications and certain paging protocols in particular may depend on your WAN configuration. Higher latency times may be acceptable for certain web applications; however, lower latency is always preferred.

For optimal system performance, Spok recommends adhering to the network port requirements provided during the system implementation.

Hardware Support

Spok recommends that customers maintain an adequate inventory of spare parts as needed for Product operation. It is the customer's responsibility to maintain such inventory.

Only the hardware Products covered under the customer maintenance contract are fully covered and, if returned to the Spok Service Center, will be repaired or replaced at no charge to the customer. It is the customer's responsibility to return all items covered under your maintenance contract to the Spok Service Center. All Products covered under the Spok maintenance contract shall be itemized and tracked by serial number in the Spok database.

Server Hardware

If you have selected to purchase Dell servers through Spok as part of your system purchase, Spok will establish a standard Dell service plan for your servers which include a 3 year warranty and four (4) hour on-site service. If you have purchased your own servers or if you purchased HP/Compaq or IBM servers from Spok, you will be responsible for setting up a support contract with your preferred, local hardware vendor.

VMWare/San Environments

Hardware Requirements

When designing and implementing a VMWare/SAN solution, customers are strongly encouraged to follow Spok's VMWare specifications when they configure the VM instance that will be used for our applications. Variances to Spok's recommended specifications can result in application performance issues or in more serious situations application crashes / failures can occur. For more information on Spok's VMWare specifications, please refer to Spok's hardware requirement document.

General

If you have chosen to install Spok in a VMWare environment, it is important to note that you will be

responsible for the performance standards, support and maintenance of the VMware/SAN environment in which the Spok applications operate. Unlike a non-virtualized environment, there are many aspects of VMware that Spok analysts do not have access to with regard to troubleshooting (e.g. v-sphere). Spok applications are very reliant upon the VMware/SAN environment running optimally and without issue. When Spok applications run in VMware/SAN environments, they can be subject to a number of environmental situations that do not occur in a non-virtualized configuration. It is vital that these be appropriately monitored and all events and alarms be reported to the appropriate personnel for immediate resolution. If problems to the Spok applications arise due to a customer's failure to properly support or maintain the VMware/SAN system(s) and Spok resources are needed to identify the cause of the issue, Spok may assess a fee for this service as VMware support is not included in any of the Spok maintenance plans. If Spok determines that the cause of the issue is due to the VMware environment, Spok will report this to the customer and the customer will be responsible for resolving such issues. If the customer is not able to identify the issue, Spok may request that a physical server be provided to run the Spok applications.

It is important to note that v-motion can cause issue to the Spok console applications as Spok's console applications require a persistent connection and v-motion can interrupt this. Console customers who use snapshots for backups, v-motion, or other applications that quiesce the file system, issues are likely to arise with the Spok solution. Web only applications should not be impacted by vMotion.

Also, Spok needs to have dedicated resources for RAM and CPU. The usage of these two resources fluctuates constantly within the Spok applications and when the VM environment is configured for Spok to share, Spok will have issues and can even crash when the necessary resources are not available.

Change Control

Changes and downtime to the VMware/SAN system(s) must be reported to Spok. Reporting maintenance events to Spok helps in minimizing downtime should issues arise in the Spok applications; notification of support and maintenance tasks may also help in mitigating additional support costs in the event there is a failure of the Spok system due to scheduled maintenance processes. Maintenance events can include, but are not limited to: server migration, disaster recovery testing, software updates, and physical server/SAN maintenance.

Disaster Recovery

Customers should maintain up-to-date VMware backups of the relevant VMware systems they use to support Spok applications. Backups should include all files (e.g. guest OS snapshots) and components that run the VMware host systems. Software backups should be refreshed quarterly, to ensure any enhancements and/or customizations customers may have are retained in a recovery scenario.

Hyper-V Environments

Under our current support plan, Spok will work with customers to troubleshoot VMware issues, but cannot extend this same offering to Hyper-V at this time. Customers who are required by their corporate standards to use Hyper-V do so at their own risk. Spok makes no guarantees that our application will run without issue

in Hyper-V. Additionally, Spok will only apply best effort support to troubleshoot any issues reported by the customer. If Spok is not able to determine the cause of the issue because it is believed to be an issue due to the Hyper-V environment, Spok will report this to the customer and the customer will be solely responsible for resolving such issues.

If a customer installs in a Hyper-V environment and runs into issues, Spok may ask the customer to install on physical servers to help isolate the issue. Spok has a similar policy for customers running in VMware environments.

Microsoft Clustering

For customers who choose to run our applications in a Microsoft Clustering environment, there are important considerations to keep in mind. If the following are not taken into consideration and adhered to, problems with our application are most likely to occur.

- Presently, the Spok solution is not officially cluster aware.
- There are many 'other' databases also hosted on the same cluster, which can lead to contention for resource.
- If your storage, i.e. SAN Storage, does not perform as expected, this can affect the stability of our applications.
- If the environment is not powerful enough to manage the near 'real-time' nature of our applications. For more information on our requirements, please reference our Hardware Specification Guide.
- Common issues are slowness and lockups which typically results from an environment not setup to cater to the role in which our applications reside
- Since Spok will not be managing this environment, it is vital that the individuals responsible for supporting the Microsoft Cluster also have expertise in SQL/database configuration or optimization, or that they work closely with the individuals who do. These two aspects are dependent on each other.
- Database size should not dictate decisions. Our applications are heavy I/O bound by nature. Our applications are continuously poking into this central SQL database, the database is quite busy performing many 'reads' as well as 'writes' to the database.

Operator PC Workstations

The customer is responsible for the installation and on-going health of operator PC workstations. Should a trained Spok administrator experience issues installing a like for like workstation, Spok Support may be engaged for assistance at no cost.

During initial implementation, work with your Project Manager to learn how to install Spok workstations. This training session includes the image to reinstall a workstation. Spok will provide remote assistance and training on how to re-install our PC applications one (1) time after system activation to the system administrator based on site configuration. If Spok's resources are required to reload a PC after the installation is complete, this will not be covered under Support and can be performed at the current service rate.

Spok recommends that the customer have anti-virus and spyware software installed and that the customer is current with these applications. Spok also recommends the customer update the Windows operating

system patches on routine basis. The IntelliSuite and Xtend Suite platforms require that the customer implement the Skip/Exclusion List provided by Spok for virus scanning and backup utilities.

If a problem is found with a third party hardware component (purchased from and supplied by Spok) related to the operator PC workstation, Spok will ship a new component within 1 business day (based on availability of parts). This will be sent via standard overnight delivery.

Important Operator PC Workstation Information

- If an operator's PC workstation gets a virus or any other problem occurs and it is determined that a PC must be reloaded, it is the responsibility of your team to correct the problem and reload the Spok PC application software. For this reason, Spok suggests that your team routinely update the image via the designated Spok "Master" PC.
- Spok requires that the customer keep a backup or image current. Methods by which customer chooses to do this is at the discretion of the customer, but it must be kept up-to-date. If it is determined that the method by which a PC was restored is out of date, Spok will provide assistance at the current hourly rate.
- While all of Spok's operator PC workstation applications are native windows applications, Spok will not be held responsible for any program that your organization may install which causes problems with Spok's applications or vice versa.
- The operator PC workstation applications have been developed to work in the version of the Windows operating system that they were originally installed in. If the customer loads any other operating system on a PC other than the original version of operating system software, the Spok applications may not function properly. If it is necessary for Spok to assist with the installation and configuration of the Spok software on a new Windows operating system the customer will be billed at the current hourly rate until all issues related to the Windows upgrade have been resolved.
- If you use a desktop management application, it is your responsibility to ensure that your desktop management application (such as ZENworks) has the most current Spok configuration files and registry key settings.
- Due to the multitude of configuration options of Spok's PC applications, it is the recommendation of Spok to have some type of program that can automatically push the Spok PC applications to the operator PC. By using this method, your staff will be sure to push the most current software configuration files. The on-site Spok analyst will work with your PC support team (during the installation of your software) to answer any questions they may have about the dynamic files of the Spok PC applications.

Hardware – Supported by Spok

Spok will support and provide RMA service for some of our own as well as third-party hardware components purchased directly from Spok. If a hardware component is determined to have gone bad, Spok will send a

replacement via overnight delivery service. The customer will be expected to replace the old (bad) hardware component with the new hardware.

Spok Messenger Platform

All Spok Messenger Platform products are Spok created and supported under active maintenance plans:

- Spok Fusion
- Event Management Module (EMM)
- IAM (Integrated Alarm Management – an EMM with specific interfaces for Advanced Nurse Call and an output device)
- CMM (Cellular Messaging Module)
- TIM (Telephone Interface Module)
- TRM (Telemetry Relay Module)
- ADM (Alarm Dispatch Module)
- Digi Port server(s) (this is a 3rd-party hardware component, but completely supported by Spok)
- Antennae (if customer has proof that it was installed by company who warranted the installation)
- Transmitter (if customer has proof that it was installed by company who warranted the installation)

IntelliSuite Platform

The third-party hardware components supported by Spok include:

- Spok-supplied keyboards [misuse or physical damage (e.g., liquid spilt in keyboard) will not be covered by warranty]
 - Dialogic voice cards
 - Digi serial cards, Digi concentrators and Digi port servers
 - Voice with a Smile boxes
 - Voice with a Smile recording headset
 - Modems

Site Alert Platform

PCs or servers are not covered by Spok support; however, PCs and servers purchased from Spok come with the standard Dell warranty and support is provided directly by the respective hardware manufacturer. PCs or servers not covered by Spok support will be the responsibility of the customer to replace should a hardware failure occur.

Hardware items covered by Spok include:

- Call Locators
- Digi boards
- Modems supplied by Spok

Smart Suite Platform

- Dialogic voice cards
- Digi serial cards, Digi concentrators and Digi port servers
- TMP (Dynametric boxes)
- Voice with a Smile recording headset
- DEES boxes
- BOSS boxes
- Key caps
- Modems
- Cables

Xtend Suite Platform

- Telephony Boards:
 - Dialogic Boards
 - Ai-Logix Boards
- Serial Products
 - Digi Boards
 - Digi Serial Servers
 - Lantronix Serial Servers
- Voice with A Smile boxes
- Buffer/Pollcats
- Cables:
 - RS-232 - CTI/Modems/etc.
 - Telephone Silver Satin patch cords
- Dial-up Modems – USR 56K
- Public Safety Products:
 - Xid Boxes
 - TDD Modems
 - Konexx Box
- Media Gateways – iSED
 - Dialogic Media Gateway
- Alarm Gateway Products
 - Dataprobe Alarm Annunciator
- Dataprobe Remote Switch
- CTI Devices:
 - Dees Box (CSI380)
 - CTI 500
 - Passageway
- FAX Boards

Hardware should be replaced with a like for like model, compatible with your existing software. It is the responsibility of the customer to review all hardware replacements to Spok solutions for compatibility. The Spok Compatibility matrix can be found in Spok Knowledge via this link: www.knowledge.spok.com, search

for “Compatibility matrix”.

Spok will test each hardware Product prior to sending a replacement. Spok will not replace those found to be damaged by misuse on a free of charge basis. Additionally, when returned hardware Products are found not to have an issue, a bench fee will be assessed by Spok and the hardware will be returned “as is” to the customer. It is Spok’s recommendation that customers consider keeping spare hardware at their facility. Spok will only ship a replacement once the original has been received and tested under the Standard Support plan. Premium support plans may offer advance RMA for hardware.

Return Materials Authorization (RMA)

Spok offers two types of RMAs, Depot Service and Advance RMA. The Standard Support plan provides Depot Service. Advance RMA is available for an additional fee. [Premium support plans may include an Advanced RMA option].

Depot Service

A Return Materials Authorization (RMA) number must be issued by a Spok support analyst for any and all repairs and/or replacements of Products. Additionally, customers must fill out an RMA form and include the RMA number in the form. Customers can obtain a RMA form at https://www.spok.com/customers/online_support/. This form must accompany the Product being sent to Spok's Service Center. Any Products sent to Spok for repair without an RMA number and a complete RMA form will not be processed. Customers must obtain an RMA number for each repair or replacement each time by contacting Spok's technical support. Specialized or unique frequencies may be subject to delay, based on availability.

Once the Product is received, Spok will use commercially reasonable efforts to ship a repaired Product within five (5) business days. Spok takes great measures to ensure that inventory of spare products are always available, but Spok makes no representation that sufficient quantities of Products and labor are guaranteed to be available to perform such repairs or replacements. Further, Spok will not be responsible for non-performance or delay in repair or replacement of Product. If any parts needed for the repair are not in stock, they will remain in back order status until all parts are received, then the component/part will take priority.

If the customer returns a presumed defective Product and, upon testing by a certified analyst at Spok's Service Center, it is determined that the Product is correctly functioning, the customer will be responsible for all shipping charges. Any repair of systems, Products (including pagers) not expressly listed under the customer's current support arrangement will incur the then-current minimum bench fee for the services provided, plus the cost of parts.

- The repair RMA form must be filled out for each Product sent in for repair (warranty or non-warranty). If all required fields are not completed, the repair process will be delayed and Spok will not be able to repair the Product until a completed form is returned. In addition, if all fields are not completed, penalty fees may be applied.
- A bench fee will be charged if no problem is found. It is advised that the customer be as specific as possible about the problem(s) they are having with the Product sent in for repair.
- If the Product was purchased through a dealer, all repairs must first be tested and verified by the dealer to confirm the reported problem before shipping the Product to Spok. Spok will only process repairs which are sent from authorized dealers unless prior arrangements are made.
- All non-performing in-warranty and out-of-warranty Products must be returned to Spok within ten (10) days of the RMA-issue date to be eligible for repair or replacement.

- Pager Repairs Only: If pager frequency, cap code and baud rate are not supplied, the pager will be returned un-programmed. All system-specific settings must be provided on end items or they will be returned with default settings. Please remove all accessories before sending items for repair as Spok will not be responsible for any unit/pager labeling or accessories sent in with the repairs (e.g., battery cover, clip, holster, etc.).
- The Spok hardware warranty only covers manufactures defects. Physical damage (including water damage) is not covered under warranty. Any modification to the Product will void any warranty and any systems not installed under Spok guidelines will not be covered.
- Repair charges are available upon request. Repair charges are subject to change without notice. No discounts will be applied to repair or replacement charges.
- Return Product Processing / Shipping:
 - Spok will not be liable for any damage to Products that occur while such products are in transit to Spok and damaged Products will be refused at the Spok dock and returned to the customer.
 - Spok recommends insuring all shipments.
 - It is the responsibility of the customer to make claims and arrange for insurance compensation for all damaged or lost shipments.
 - If the Product is returned with pieces missing, Spok will either suspend repair until the missing parts are returned, or charge for the repair at Spok's then-current repair prices, or cancel the repair or return the product to the customer.
 - If Spok determines that any returned Product is damaged in any manner that would void the manufacturer's warranty, Spok will cancel the repair and notify the customer.
 - The customer is responsible for all shipping costs to the Spok Service Center. Any COD or Bill Receiver shipments will not be accepted. When returning the Product to the customer, Spok will pay the shipping costs from the Spok Service Center to the customer location. Any special shipping requests from the Spok Service Center to the customer location will be billed to the customer.
- There are no charges for repair or replacement service if an item is undamaged and under warranty or a support contract. The originator is responsible for all shipping charges.
- Spok will not repair or replacement a Product in which identification numbers on the printed circuit boards or chassis have been altered or removed.
- Spok will not repair to or replacement a Product containing or showing an unauthorized modification.
- Any attempts at repairs, maintenance, or modifications to the Spok Product performed by someone other than persons who are employed, authorized or certified by Spok will not be repair or replaced.
- Spok will not repair or replace damaged hardware caused by power surges or damages caused by persons unauthorized by Spok attempting service or repair.

Emergency Hardware Request

The Emergency hardware request applies only to customers with an active Standard Support plan. In the event (i) an emergency condition exists, (ii) there are no spare parts available at the customer location to repair or replacement the hardware, and (iii) the customer decides that they cannot wait for the Depot Service available under the Standard Support plan, an Emergency hardware purchase may be requested by the customer. Once approved by the Spok Technical Support Center, Standard Support plan customers will have the option to purchase a new hardware and send their non-performing hardware in to be repaired. The non-performing hardware will be repaired per the Depot Service process outlined above and returned to the customer (which can be available as a spare hardware). All requests for Emergency hardware requests will be treated as a new Product order and will require the customer to complete the order form / purchase order process.

Spok will use reasonable efforts to process an Emergency hardware request during the same business day the request is received; provided, however, that Spok confirms, at its sole discretion, that such hardware is available at the time the emergency request is received. Spok does not stock Product sufficient to meet all emergency requests and thus there are circumstances when Spok may not be able to supply specific parts associated with a customer's emergency request. All shipments of Emergency hardware will only be made after a fully executed order form / purchase order for the Emergency Product has been received from the customer. Emergency hardware requests will be shipped via next day delivery based on standard availability of stock. Specialized or unique frequencies may be subject to delay and, again, fulfillment is based on availability.

Emergency hardware requests received after hours will be processed the next business day.

Advanced Return Materials Authorization (RMA)

Immediate advance replacement of defective hardware is available to customers on the Standard Support plan for a fee. To qualify for immediate advance replacement, the defective hardware must be impacting the system to a point where the Product is less than fifty percent (50%) functional. An Advanced Replacement Request number must be issued by a Spok support analyst. Any hardware sent to Spok for repair without an RMA number will not be processed. Based on availability, Advance replacements will be prepped and Spok will attempt to ship the product the same day that the problem is reported. All advance replacements will be shipped via next day delivery based on standard availability of stock. Specialized or unique frequencies may be subject to delay, based on availability. The defective hardware for which the advance replacement has been issued must be returned within 30 days of issuance or the customer will be invoiced for the hardware.

Customer Support RMA Locations

Americas and EMEA

Spok, Inc.
8301 Cypress Plaza Dr.
Jacksonville, FL 32256

APAC

Spok, Inc.
130 Main Street Osborne Park,
Perth, Western Australia 6017

Maximizing Your Investment

Customer Support User Community

Within Spok's on-line Customer Community, customers will find many helpful resources including:

- FAQs
- Documentation, User Guides and Quick Reference Guides
- Training materials and information
- Ability to manage your cases
- Information on SecureLink
- Case studies
- Product release notes
- Best Practice System Maintenance Information
- Training videos
- Knowledge articles
- Connect conference information
- Product Life Cycle information

Connect Conference

Spok hosts a national conference each year that is open to all customers. Information about the event is communicated via the monthly newsletter (Connections) and via e-mail. This information is distributed to all e-mail addresses listed in Spok's Marketing database. If you would like to be added to our distribution list, please send an email to newsletter@spok.com. If you have specific questions about the Connect conference, please send an email to connect@spok.com.

LinkedIn –Spok Directions User Group

Joining the Spok User Group (Spok Directions) on LinkedIn

The LinkedIn Spok User Group is a platform to have conversations and provide opportunities for peer networking. We welcome all forms of positive discourse and discussion on topics you face in your daily operations.

You may find the Spok group by searching in LinkedIn or clicking on a group logo seen on another member's profile. To search LinkedIn:

1. Type 'Spok Directions' in the search bar near the top of LinkedIn's home page and click the magnifying glass icon. This should give you results for a number of people.
2. Click the 'Groups' link on the left side of the page to narrow the results to include just groups.
3. Click the 'Join group' button next to the Spok Directions information

If you are an active customer with Spok, you will be approved to join this LinkedIn group within a 24 hour period. You will be notified (via the email you provided) of your approval status. Once approved, you are able to access the group, including discussions, new product information, and other useful tips.

Can anyone join the group on LinkedIn?

No. This is a closed group. Only active Spok customers and staff will be allowed to access the group.

Not already a member of LinkedIn?

Go to www.linkedin.com. Follow the easy-to-navigate directions (outlined above) and join. Be sure to fill out your profile. It's free to use and only requires basic internet access.

Spok Directions User Group

Spok hosts regular user group meetings. These calls/meetings are driven by our customers. For more information, please email usergroup@spok.com.

Monthly Newsletter

Spok sends a monthly newsletter to all e-mail addresses listed in our Marketing database. This newsletter is called Connections. If you or a colleague would like receive our newsletter, please send an email to newsletter@spok.com.

Webinars

Spok conducts webinars about topics that are relevant to the Spok solution(s) you have purchased. Topics are wide ranging and receive high marks from attendees. Information about upcoming webinars is communicated via the monthly newsletter and via e-mail. This information is distributed to all e-mail addresses listed in Spok's Marketing database. All webinars are free to maintenance paying customers. To be added to our webinar invitation list, please send an email to webinars@spok.com.

System Upgrades

As technology changes, many companies de-support hardware and software. Some components of your Spok solution may include third party components. When these third-party companies stop supporting a technology or Product it becomes more difficult for Spok to support the solution you are using. To ensure system stability and solid support of your solution, Spok will end of life older product versions of software. When this happens, Spok will no longer provide updates or support for the older software versions. Only upgrades to then-current versions will be available after the End of Life date. Additionally, customers will not be allowed to open Enhancement Requests for changes on older versions of software. To receive the best support from Spok, it is recommended that you upgrade your system every 2-3 years. Additional information regarding Spok's product lifecycle methodology can be obtained by contacting a Spok representative. Spok's Product Lifecycle information is available via our customer User Community.

End of Mainstream Support and End of Life

We are committed to providing you with the best software solutions, service, and quality. As a result, older software versions reach End of Mainstream Support (EOMS) and End of Life (EOL) milestones as newer versions are made generally available which provide additional functionality, features, technology infrastructure upgrades, and/or security updates.

Definitions of these key milestones within Spok's product lifecycle process are:

EOMS Date – Spok will no longer provide support for the product at standard maintenance rates after this date. Prior to EOMS, you should talk to your sales representative about updating your Spok solution or extending your maintenance agreement.

EOL Date – The EOL date is the point when we will fully retire a product and will no longer offer support for the product. Prior to EOL, you should talk to your sales representative about updating your Spok solution. Continuing maintenance after the End of Life date does not grant access to Support but does protect your right to obtain current releases under your perpetual software agreement.

To view all EOM and EOL dates, please access Spok Knowledge and search for ‘Spok Software Lifecycle Dates’

Training

Spok has a professional training team available for both on-site and remote training on any Spok solution. To request training, submit a request to training@spok.com.

Idea Management

You can also submit product improvement ideas for consideration by Spok’s product strategy team and network with other customers through the “chat” feature. Join the Spok Customer Community to have your ideas.

Revision History

The following revision chart describes the changes made for version 7.x of this document.

REVISION	DATE	STATE/DESCRIPTION
7.2.1	1-31-2013	Review and adjustments by internal review committee. General adjustments and clarification of information
7.2.1	1-31-2013	Added toll-free number for New Hampshire Call Center
7.2.2	5-8-2013	Updated APAC information
7.2.2	5-8-2013	Added RMA mailing addresses
7.2.3	5-10-2013	Updated APAC address
7.2.3	5-10-2013	Updated the Services Included/Excluded
7.2.3	5-10-2013	Updated the Change Control information
7.2.3	5-10-2013	Replaced product suite names with support location information as it relates to contacting Spok.
7.2.4	8-30-2013	Updated the new management contact information for APAC and New York.
7.2.5	11-1-2013	Added language to virtual environments
7.2.5	11-1-2013	Added language for Fusion support
7.2.6	4-14-2014	Updated Case Management to reflect new, centralized 800 number for calling in support requests
7.2.6	4-14-2014	Updated management contact information
7.2.6	4-14-2014	Streamlined the support case escalation process
8.0	7-1-2014	Changed name from Amcom to Spok (re-brand)
8.1	1-16-2015	Updated Virtual Environment information
8.1	1-16-2015	Updated Supported Release information
8.2	2-26-2015	Added clarification language in the Customer Environment Change section
8.3	1-18-2017	Updated Spok Software Lifecycle Removed support email address
8.3.1	11-8-2018	Update to Remote Access maintenance fee verbiage
8.3.2	4-17-2019	Update Spok Mobile maintenance verbiage/time format Removed Blackberry from Message Push/Notification
8.3.3	11-25-2019	Services Excluded – additional verbiage and clarity Escalating a Support Case – additional verbiage and clarity Application Product Enhancement/Change Request – added “planned” Customer Environment Changes – additional verbiage and clarity System Backups – added “during your implementation” Operator PC Workstation – additional verbiage and clarity Hardward Support by Spok – additional verbiage