

RibbonCare Service Description

Service Provider Care Support Plan for Software Products offered to Ribbon Distributors and Direct Partners



RibbonCare Maintenance & Support

This Service Description describes the RibbonCare Service Provider Care (“SPC”) maintenance and support plan.

SPC plan is offered for a prepaid annual fee by Ribbon Communications Inc. (Ribbon) to “Partners” (Ribbon distributors, partners of Ribbon distributors, and direct Ribbon partners) to provide maintenance and support services to Telecom Service Providers and Ribbon identified Managed Service Providers collectively identified here as Service Providers (“SPs”) who purchase Ribbon products from a Ribbon Partner.

The RibbonCare SPC plan allows SPs purchasing Ribbon products from Partners direct access to Ribbon for maintenance and support services.

Assistance with network design, configuration, deployment and/or migrations are not within the scope of the SPC plan but are available through purchase of Ribbon Professional Services.

RibbonCare SPC maintenance and support package availability and prepaid fee may be based on product location and/or type.

RibbonCare Service Provider Care Maintenance Support Summary

SPC support allows registered SPC staff direct access to Ribbon technical support and Ribbon Support portal. Portal enables 24x7 access to technical support information, non-critical issue support request submission, support case management & updates, download of entitled software Patches Updates & Upgrades, and Ribbon product bulletin notifications.

Ribbon 24x7 Technical Support with immediate critical issue “ER team” escalation engagement or 8x5 access without critical issue escalation response for non-critical lab environments.

For select products as listed in Appendix C, periodic remote update/patch delivery and installation.

Supplemental RibbonCare Support & Maintenance Services

Availability and prepaid annual fee based on product location and/or type.

- Annual remote software major release upgrade delivery and application service. See RibbonCare Annual 360U service description for details.

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RibbonCare Package Features -- Service Description

In consideration of the maintenance fee for the applicable RibbonCare offering purchased, Ribbon shall provide maintenance and support services in accordance with this service description.

Remote Ribbon Technical Support (“RTS”)

Following Partner purchase of SPC RibbonCare plan, Partner identified entitled SP is required to register staff for access to the Ribbon support portal. The Ribbon Support Portal enables 24x7 access to technical support information, non-critical issue technical support request submission, support case management & updates, download of entitled software Patches Updates & Upgrades, and registration for Ribbon product bulletin notifications -- giving SPC customers download access to Software Releases (Major, Minor, Patch) made available during the purchased support term

RTS response is prioritized based on a jointly assigned issue severity level. Severity levels are described in appendix B.

When entitled by RTS 24x7 service level, technical support requests may be opened 24x7 via phone and are entitled to immediate “ER team” response to critical issues.

For technical resource assignment and response to non-critical or non-business critical severity issues SPC is encouraged but not required to submit support requests via the Ribbon support portal.

SP is required to maintain appropriate Software configuration backups and the capability to install software backups, updates, and entitled major release upgrades as a prerequisite for RTS services delivery. Ribbon professional services and training are available to assist for an additional fee.

- It is recommended that backups be readily accessible and that copies be stored in a secure offsite location. In a recovery scenario, missing, corrupted or inaccessible backups can result in extended outage and recovery times. For fee Ribbon professional services to assist in rebuild and or reconfigure are available.

24x7 RTS Service:

For critical issues (See appendix B for severity definition) when RTS contacted by phone 24x7 regarding a critical severity issue Ribbon will immediately engage the Ribbon global emergency recovery (“ER”) team”. Ribbon ER team will remain remotely engaged to recovery.

- After service has been satisfactorily restored, Critical support case will be closed. A Major/Minor child case will be opened if Ribbon determines that further investigation or problem resolution activity is required. Furthermore, at its discretion Ribbon may conduct a root-cause analysis of the issue, the results of which will be made available to Customer.
- Case closure is documented in case notes viewable in Ribbon support portal.

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8x5 RTS Service:

For SPC s with Ribbon products operating in non-critical environments (e.g., Labs) which do not require immediate Ribbon work-to-recovery response to Critical issues and not requiring 24x7 access to RTS for triage and prioritization of support requests.

- For Ribbon response prioritization, cases opened can be classified as major or minor.
- Opened cases are remotely responded to/worked on by RTS staff during business hours, 9 AM to 5 PM in SPC time zone, Monday thru Friday excluding Holidays.
- Case closure is documented in case notes viewable in Ribbon support portal

RTS Support for Ribbon SW Applications Installed on Server not sold by Ribbon:

Customer should only use third party server hardware and other software that meets Ribbon's published software application technical operational requirements.

Customer is responsible for all hardware repairs including software reinstallation as required due to hardware repair.

In the event a Customer is unable to determine if an operating issue is related to hardware or Ribbon software, Ribbon will be the first point of contact for diagnostic support related to a Ribbon Software application under RibbonCare maintenance support coverage. Ribbon will work with Customer to jointly investigate to determine whether the source of an operational issue is directly related to: (i) a Ribbon software application; or (ii) to non-Ribbon provided server hardware and/or other software.

- During such an investigation, Ribbon will work with SPC Customer to determine the source of a reported operational issue. If the source of the reported operational issue is identified as being outside of the Ribbon provided software application (and its guest OS), it is a Customer's responsibility to resolve the issue which may include Customer's: (i) repair of the hardware; and/or (ii) reinstallation by Customer of the applicable software including (a) the Ribbon software from Customer's maintained backup of the Ribbon software application per the applicable Ribbon documentation; and/or (b) Customer's server operating system (host OS) and hypervisor software from Customer's maintained backup as specified by the provider of those products

SW Maintenance

The RTS (Ribbon Technical Support) portal provides SPC entitled SPs access to download software Updates and Entitled Major Release Upgrades, giving active support customers access to Software Releases (Major, Minor, Patch) made available during the purchased support term, as entitled under the RibbonCare program.

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Optional software maintenance services for select products:

With purchase of SPC 24x7 RTS support level a SP may request, up to once per month, remote Ribbon software patch delivery and application for select Ribbon products as listed in Appendix C.

For an additional fee, the RibbonCare annual remote software Upgrade and Application Delivery (360 U) service is available for select products. See *RibbonCare 360 U service description for details*. Software Upgrade services are also offered as per instance purchased Ribbon Professional services.

- Note, remote RibbonCare 360 U and software patch and application delivery services do not include network design, IOT/inter-op testing, acceptance testing, network configuration, provisioning & translations, network integration & validation, migration, new feature activation, or other Ribbon professional services which are made available for an additional fee.

RibbonCare Support & Maintenance Support Fulfilment Process

SPC services Partner / entitled Service Provider Obligations:

The RibbonCare SPC maintenance and support program defines Ribbon obligations and the obligations of a Service Provider purchasing maintenance and support services from a Partner which provide direct access to Ribbon for maintenance and support as entitled by SPC as follows – Partner may assist Service Provider in the meeting of these obligations.

- Registration of staff for RTS portal login and case submission.
- Fault triage and isolation to Ribbon hardware and software products.
- Resolving of known problems by researching existing solutions documented in Ribbon support portal knowledge base.
- Opening and administering service tickets on Ribbon call logging and tracking system for escalations to Ribbon RTS for Ribbon technical support assistance. Critical issue cases are to be opened via phone.
- During recovery from Critical severity issues (outages) customer is to be continuously engaged with Ribbon 24x7 emergency recovery team.
- Collaboration with Ribbon RTS engineers to assist with steps for replication of issues identified to be a software defect or related to complex configuration.
- Isolation and review of issues through inspection of logs and trace files.
- Providing of requested diagnostic information, configuration data, log files, and network protocol trace files to RTS.

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- To facilitate a rapid solution to emergency or high-priority service requests, Customer may be required to provide Ribbon with remote access into the Customer's network. Either of the following two 'industry standard' remote access methods are to be made available to Ribbon upon request.
 - On-demand activated VPN Client with access credentials and tokens maintained by the customer and shared on-demand with the support engineer.
 - Customer controlled Remote Desktop Sharing application. Examples of desktop sharing applications that are commonly used include Teams, WebEx, TeamViewer, etc.
- Alternative remote access solutions provided to Ribbon, will be evaluated, and may result in additional fees.

Ribbon support recovery goals (see appendix B) will be measured and commence from the time Ribbon technical support personnel are able to successfully access the impacted solution in the Customer's network.

- SP is responsible for updating and expanding its hardware systems as required to accommodate incremental Ribbon Software updates or upgrades when so indicated by Ribbon. This includes the purchase of any hardware upgrades and/or SP download and installation of firmware updates and upgrades as may be specified by Ribbon as being required to run Ribbon Software and/or address firmware issues identified by Ribbon.
- Resolution of issues caused by misconfiguration (Ribbon Professional services for installation, configuration and provisioning are available for an additional charge).

In the event a Partner or their Service Provider Customer wishes to engage a third-party Contractor(s) or Agent(s) to perform all or part of Service Provider's obligations under this Maintenance Service Description, the Partner agrees to advise its Service Provider that the Service Provider is required to obtain Ribbon's express written consent before a third-party Contractor, or an Agent may access or use any Ribbon confidential and proprietary information. Such Ribbon consent is subject to the Service Provider's agreement to ensure, and remains primary liable for, (i) the Contractor's or Agent's protection of Ribbon's confidential and proprietary information obtained during such performance from third party disclosure or misappropriation by its Contractor or Agent; and (ii) the Contractor's or Agent's use of such Ribbon confidential and proprietary information be solely and exclusively on behalf of the Service Provider only. Ribbon reserves the right to take direct action against Contractor or Agent to protect Ribbon's confidential and proprietary information.

Ribbon Obligations:

- Accessible to SP 24x7 for support case logging.
- Further fault triage and isolation to Ribbon hardware and software products.
- Advanced isolation and review of issues through inspection of logs and trace files.
- Resolution of technical Support escalations from Service Provider.
- Resolving of known problems by researching existing solution.
- Providing of status updates and resolution details to SP.

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- Collaboration with SP for replication of issues identified to be a software defect or related to a complex configuration.
- Qualify hardware services entitlement and facilitate Return Materials Authorization (RMA) and hardware repair / replacement process per SP entitlement(s).
- Provide download access to software releases/patches per purchased service level.
- Engage Ribbon engineering and third-party vendors as required.
- When SP entitled for RTS 24x7 critical case support, following SP agreement that service has been satisfactorily restored a critical case will be closed. A Major/Minor child case will be opened if further investigation or problem resolution activity is in Ribbon's opinion required. Furthermore, at its discretion Ribbon may conduct a root-cause analysis of the issue, the results of which will be made available to the SP. Case closure is documented in case notes.
- For select Ribbon products (listed in Appendix C) with purchase of RibbonCare support package offering 24x7 RTS support level SP may request, when patch updates available, up-to monthly remote Ribbon software patch delivery and/or application.
- Providing access to the purchased support services and benefits including technical support, access to Software (major / minor / patch releases), and HW Support during the purchased support term.
- Support services for installation, configuration and provisioning are available for an additional charge.

Submitting Support Tickets to Ribbon:

Access to Ribbon support case logging and tracking system is limited to specific Ribbon Care program entitlements.

With purchase of RibbonCare SPC maintenance and support plan Ribbon SP support staff are entitled to open support tickets to address suspected issues with Ribbon supplied products and to restore a product to a pre-fault condition.

SP staff must register prior to submission of a support case ticket via Ribbon support portal. Two business days are typically required to complete registration following submission of new login request registration information at

<https://ribboncommunications.com/services/Customer-support-login>

Following is required of Customer opening a Ribbon RTS support request ticket:

- Critical severity issues are to be submitted by phone to RTS.
- The severity/priority level assigned to tickets submitted to RTS will be agreed upon according to the severity level as described in Appendix B.
- Required Information to open a support ticket:
 - SP name and contact information

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- Product serial number, software licensing information, or MAC id when required.
- Software version
- Symptoms and description of the problem. If there was any work performed on the network prior to the issue, please provide this information in detail.
- Problem severity and impact statement
- Collaboration with RTS personnel following the logging of support assistance request.

RibbonCare Maintenance and Support Program Exclusions

- Any Onsite support activity
- Any service required due to unauthorized attempts by other than Ribbon support certified personnel to repair, maintain, or modify the product.
- Any service which in Ribbons' opinion is required due to external causes to the supported product including, but not limited to, product damage, destruction, or loss due to force majeure events or due to the improper treatment or use of the products.
- Any service to resolve software or hardware problems resulting from third party products not provided by Ribbon.
- Any service for products not furnished by Ribbon or a Ribbon authorized reseller (such as, Gray Market purchased products)
- Support of any reconfiguration of products which is not in accordance with Ribbon specifications.
- Any hardware product change, for purchase RTU software licenses, or new hardware products required to run new or Entitled Major Release Upgrade software.
- Any customization of, configuration, or labor to deliver and implement software.
 - Exception, entitled Ribbon remote software maintenance delivery and implementation services as listed in appendix C and/or separately purchased 360 U annual remote software upgrade delivery and application implementation service.
- Services for software versions identified by Ribbon to be in End of R&D Support (EOL) or end of hardware repair or exchange support (EORMA) lifecycle stage -- unless Partner is offered, in writing, by Ribbon the option to purchase RTS Only support services.
- Root-cause analysis, fault reports or lead-time/performance metrics unless specifically contracted for these services.
- This service does not include access to features without purchase of RTU license to operate

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Maintenance and Support Plan Availability – Summary

Maintenance and Support services availability and Ribbon R&D support availability from time of product sale may vary by product type and/or software release version.

Below summary is for general guidance only. For additional product lifecycle details consult Ribbon Product Lifecycle policy documents or contact your Ribbon product sales contact for product specific lifecycle notices.

<https://ribboncommunications.com/company/company-policies/policies/product-life-cycle-policy>

<https://ribboncommunications.com/company/get-help/resource-library>

<https://ribboncommunications.com/services/support-services/documentation>

Ribbon Software Support Availability:

The entitlement to download entitled software updates and Major Release upgrades is provided in all RibbonCare maintenance and support packages described in this Service Description -- this will in most cases allow Customers to migrate to a Ribbon R&D supported software version after an announced software version End of R&D Support date. After software version announced End of R&D Support date, at Ribbon's discretion, Ribbon may offer for purchase remote RTS Only best effort support services for that SW version.

- RTS Only software support provides Customer with best effort Ribbon Technical Support assistance to triage issues and suggest workarounds to software issues. During a RibbonCare contracted maintenance support term extending past the End of R&D Support date for a software version RTS Only Software support will be entitled for that software version.

RTS Only software support does not provide the assurance that software versions no longer supported by Ribbon R&D are compatible with newer releases of other Ribbon Software products or that software no longer support by Ribbon R&D will be compatible with new hardware products/version releases. New software version specific patches and security updates will not be offered/developed past the announced end of R&D support date for a software version.

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RibbonCare Support and Maintenance Program Terms

Payment Terms

Support fees are due and payable annually in advance of the support period. A 12-month support period is typical, but longer periods may be quoted (with discounts for multiyear maintenance agreement commitment). Support services are non-cancelable, and the fee paid is non-refundable.

- Maintenance and support services purchased at time of product purchase are effective upon the date of Hardware shipment or for Software products the providing of the software license, unless otherwise documented.
- Approximately 90 days in advance of the expiry of the contracted maintenance Service Term, Customer will be sent an emailed renewal notification. It is Customer's responsibility to renew RibbonCare services as necessary to prevent support services disruption, including but not limited to loss of access to Ribbon support portal, RTS services, entitlement to future SW update and upgrade releases, and HW support.
- A renewal purchase order for support services should be received by Ribbon not later than 15 days prior to the expiry of the existing annual contract, to avoid disruption of service coverage.

Reinstatement of Coverage

If Customer renews support within 90 days of previous contract expiration, the renewal will be backdated to the original expiration date and support cost shall be at the then associated annual rate. Late fees may apply.

Reinstatement of Ribbon support following a lapse of support coverage for greater than 90 days or due to a failure to purchase RibbonCare maintenance and support at time of initial product purchase:

- Should Ribbon be able to determine that product is in good working order, at a supportable version level, and product was purchase directly from Ribbon or an authorized reseller Ribbon will offer Ribbon maintenance and support services to the Customer under following terms:
 - Ribbon determination that product is in good working order may include a recertification fee which will include, but is not limited to, (i) an inventory of relevant Products and Systems; (ii) a review of Customer's technical support, repair, and update histories; (iii) an assessment of the current level of the software and any hardware engineering changes; and (iv) a performance assessment of the Products. This recertification service fee will be charged at the then-current price or on an as-quoted basis.
 - Payment of 110% of Ribbon's then-current maintenance fee for period support was not paid or a product specific return-to-support fee.
 - Payment of Ribbon maintenance fee for future support coverage with a minimum term of 12 months.

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Audit Rights

Customer acknowledges that it is entitled to receive service solely for the products for which it has paid the applicable service fee. Ribbon reserves the right, upon reasonable notice, to perform an audit of Customer's products and records to validate such entitlement and to charge for support if Ribbon determines that unauthorized support is being provided.

Prerequisites

As a prerequisite to Support, a Customer is required to place and maintain the entire system/software solution under current RibbonCare support which includes:

- All purchased software / licenses added to or sold with the system or software only solution.

Support of Software Releases:

- Supported Versions – Mixed software release networks that adhere to the Ribbon product compatibility documentation will be supported.
- Customer may be requested to install Software as entitled by service level if required to correct a reported Software problem. Customer acknowledges that if Customer elects not to install such Software it may adversely affect service and product performance for which Ribbon assumes no liability.
- Customer shall allow reasonable remote system access to Ribbon supported products to enable Ribbon to perform remote diagnosis and remedial actions as may be required. If required, Customer shall allow remote access.

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Definitions

Term	Definition
8x5	8x5 support coverage is 9am to 5pm Monday thru Friday at Customer location, excluding holidays.
24x7	24X7 support coverage is 24 hours per day, 7 days per week, 365 days per year
Agent	A third party engaged by the Customer to perform all or part of Customer's obligations as set forth under this Maintenance Service Description (e.g., contractors, partners, outsourcing suppliers)
Continuous Effort	With 24x7, RTS maintenance support activities continue until system restoration for critical severity cases or until such time when the hardware fault, software fault or error corrected, or when a temporary fix or solution recommendation provided to restore the Product to the previously existing
Custom Software	Software which is modified, altered, or customized to meet Customer requirements
Customer	For purposes of this service description, Customer means the entity that has purchased this program and/or holds the entitlement to the maintenance service as defined under this service description.
Service Provider	Customer supported by RibbonCare service sold by Ribbon channel partner
End of Product Sale	Refer to Ribbon published <i>Ribbon product lifecycle documents</i> .
End of R&D Support	
End of Support	
SPC	A company (other than a Service Provider) purchasing Ribbon products and services to be used primarily for its internal business purposes
Gray Market	Refers to Customers purchasing hardware and software products from sources other than the manufacturer or the manufacturer's authorized agents
Hardware	Equipment and related accessories and parts
Next Business Day	9 AM to 5 PM Monday thru Friday excluding Holidays at location where supported equipment is located.

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Partner	Ribbon authorized distributor, indirect partners (partner of distributor), or direct Ribbon partner authorized to resell Ribbon Products and services.
Program	The RibbonCare Maintenance Program as defined under this service description.
RTS	Ribbon Technical Support
Service Provider	A telecommunication company or carrier purchasing Ribbon products to be used primarily to provide voice, data, video and other communications products and services as part of its core business as determined by Ribbon
Software	The object code Instructions for a Ribbon Software product
Software Defect	A Software defect is where the Software product does not conform substantially to published user documentation as of the date of product shipment. Software products provided by Ribbon are not warranted to be error free
Software Only Products	"Software Only Product" means a software application which is sold as a separate software product independent of any hardware.
Software Update	"Update" is defined as a software version, when and if generally available, that provides patches, fixes and minor enhancements that may slightly improve pre-existing baseline performance of the installed software version.
Entitled Major Software Release Upgrade	"Entitled Major Software Release Upgrade" is defined a software version, for which the Customer has a right to use license that provides added features, added functions, and/or major enhancements intended to significantly improve performance of the installed software version.
Spare	A field replaceable unit (FRU) held in waiting by Customer to swap with a production or Lab FRU that has failed

Ordering Information

For more information on Ribbon Products and Services or to order Maintenance Service, visit the following Web site: <https://ribboncommunications.com/>

Terms and Conditions of Sale

Ribbon Communications Operating Company, Inc) ("Ribbon") is the selling entity for the sale of Maintenance Services under this service description. The sale of Maintenance Services is subject to the Ribbon Standard Purchase and License Terms located at <https://ribboncommunications.com/>, or if applicable the existing Customer purchase agreement between the parties. No other terms and conditions shall apply. This Service Description is subject to change without notice.

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Appendix A: Maintenance and Support SKUs



Service Provider Care for Software products -- RibbonCare SKUs

RibbonCare Support Packages	Software Only Product Support
24x7 RTS Service	<p>SKUs Containing</p> <ul style="list-style-type: none">• SPC and MSWO• SPC and SWO• GD and MSWO• SRV-T-M• GBC-SWS• GBC-SER-APP• GR107300 codes• GBC-3PP-APP• GBC-3PP-SER-APP• GBC-APP• GBC-SER-SW• GBC-TAS• GBC-SWS
8x5 RTS Service (For non-critical availability environments)	<p>SKUs Containing</p> <ul style="list-style-type: none">• SPC and 8X5-SWO

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Appendix B: Maintenance and Support Goa



Appendix B: RTS Goals Availability, Response, Recovery, and Resolution

Ribbon will make reasonable effort to respond to remote technical support requests per the performance goals set forth below.

These goals are established within Ribbon as metrics within Ribbon Quality Management System TL9000 and ISO 27001 compliant processes.

Note, Ribbon's failure to adhere to the goals stated in a specific support instance will not constitute a breach by Ribbon. Listed goals are for informational purposes only and subject to change at Ribbon's discretion.

Ribbon Severity Level	24x7 Phone Availability	Web Response	Recovery	Resolution
Critical Service outage or situation that creates an imminent service outage which requires immediate corrective action.	95% of calls answered within 10 minutes. Emergency Response team engaged immediately	Not Applicable – Report by Phone	Recovery in 90% of cases within 4 hours from Ribbon notification of incident.	If further action required following Recovery, a Major severity case is opened.
Business Critical Problems that result in a major degradation of system or service performance that impacts service quality or significantly impairs network operator control or operational effectiveness with Major impact to business operations.	95% of calls answered within 10 minutes.	< 2 Hours	Not Applicable	80% of cases resolved in 5 days or less.
Major Problems that result in conditions that significantly degrade system operation, maintenance, and administration.	95% of calls answered within 10 minutes.	< 4 Hours	Not Applicable	80% of cases resolved in 15 days or less.
Minor Problems do not significantly impair the functioning of the system and do not significantly affect service to Customers.	95% of calls answered within 10 minutes.	Next Business Day	Not Applicable	80% of cases resolved in 30 days or less.

Support Service Definitions

“Severity Level” A Defect which is classified based upon TL9000 guidelines regarding system impact. Initial Customer assigned Technical Support case severity classification is refined and mutually agreed upon between Ribbon and the Customer.

“Response” means the time commencing upon Ribbons' receipt of a service request by the method required for the applicable defined Severity Level and ending when an engineer is assigned, and acknowledgement of the request has been published.

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“Recovery of Critical Severities” means the time-period commencing after the applicable Response Time period and ending when the hardware fault, software fault or error corrected, or when a temporary fix or solution recommendation is provided to restore the Product to the previously existing level of functionality.

- Recovery Time expressly excludes any required hardware shipment or hardware replacement. Recovery Time also excludes time spent waiting on Customer required information, access to Customer’s facilities, scheduled maintenance windows, Force Majeure event(s), etc.
- In circumstances where software restoration or solution recommendation is deemed to be at risk within the recovery goal time-period such issues will be managed transparently by Ribbon with the Customer. Ribbon will identify all such support request cases and escalate to senior Ribbon support services and Ribbon R&D management.

“Resolution” means that a solution recommendation or action has been provided, or the support request case is otherwise closed by Ribbon. Following Customer completion of required steps within a Ribbon provided resolution goal is for covered products to materially conform to committed Ribbon product specifications. Resolution is a solution or recommendation which Ribbon and Customer have mutually agreed is sufficient to close the support request case.

- Should a mutually acceptable software solution, or solution recommendation not be possible within the case closer time-period goal such issues will be managed transparently by Ribbon with the Customer and Ribbon will identify such support request cases to the Customer.
- There should be no expectation that a Ribbon assigned engineer will in all cases work continuously with customer to issue resolution. Issue priority is established by severity.
- Timing for the incorporation of resolution within a generally available production SW/documentation release(s) will depend upon issue severity, likelihood of occurrence, customer business impact, workaround characteristics, or other factors as determined by Ribbon.

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Appendix C: Remote Scheduled SW maintenance

Appendix C: Select Products: Remote Scheduled SW maintenance

For the select Ribbon products, as listed in table 1 below which may be updated from time to time by Ribbon ("Select Products"), with purchase RibbonCare support package including 24x7 RTS support Partner working with Service Provider may requested remote scheduled software patch delivery and application with a frequency of not more than once in a 28-day cycle. Frequency of software maintenance will depend upon software patch or maintenance release availability, request of patching service, and joint Ribbon and Partner working with Service Provider scheduling of software maintenance service delivery.

- **Software Patch or Maintenance Release Delivery:** Software can be delivered directly to network end elements or to a drop box location using a B2B VPN tunnel / Internet-routed connection established between Ribbon and Partner working with Service Provider.
- **Software Patch Application:** Patches are defined as generally available incremental software that can be delivered and applied onto an existing software release to address identified product issues.
- **Software maintenance release application:** Application of a generally available non-major software release which is defined to be a full software version replacement integrating patches.
- Remote site readiness/health check assessments will be performed to determine the readiness of network elements in accordance with Ribbon standard specifications prior to application of a maintenance release.

Table 1

Software Maintenance Update Service Offering	Automated Software Patch Delivery	Software Patch Application	Software Maintenance Release Application
3PC Linux (Per Pair)	Included	Included	Included
3PC Storm	Not Patchable	Not Patchable	Included
Application Server (Includes Multimedia Communication Server 5200 and Session Server Lines)	Included	Included	Included
APS (Audio Provisioning Server)	Not Patchable	Not Patchable	Included
AS5200 (Application Server 5200)	Included	Included	Included
BBSTP	Not Patchable	Not Patchable	Included
BCP 7200	Included	Included	Included
C15	Included	Included	Not Supported
C15i	Included	Included	Included
C3	Not Patchable	Not Patchable	Included
C3 Safari	Included	Included	Included

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Appendix C: Remote Scheduled SW maintenance

CBM (Core Billing Manager)	Included	Included	Included
CICM (Centrex IP Client Manager)	Included	Included	Included
CIM/Ureach	Not Supported	Not Supported	Included
CMT Co-Resident - (Includes IEMS, PSE, SESM, QCA, SAM21EM, SSPFS)	Included via NPM	Included via NPM	Included
CMT Standalone - (Includes PSE, SESM, QCA, SAM21EM, SSPFS)	Included via NPM	Included via NPM	Included
CS2K/C20 Core	Included	Included	Not Supported
DMS	Included	Included	Not Supported
DSC	Not Included	Not Included	Not Included
DSI	Not Patchable	Not Patchable	*Included
EMS	Not Patchable	Not Patchable	*Included
ERS 5698	Not Patchable	Not Patchable	Not Supported
ERS 8600 (Ethernet Routing Switch) & EM	Not Patchable	Not Patchable	Not Supported
G2	Not Patchable	Not Patchable	Included
G5	Not Patchable	Not Patchable	Included
G6	Not Patchable	Not Patchable	Included
G9	Not Patchable	Not Patchable	Included
GENCom	Not Included	Not Included	Not Included
GENView Analytics	Included	Included	Not Supported
GENView Billing & Mediation	Included	Included	Included
GENView Manager	Included	Included	Included
GENView Provisioning & Portals	Included	Included	Included
GSX	Not Patchable	Not Patchable	*Included
GWC (Gateway Controller) (Per Pair)	Included via NPM	Included via NPM	Included
IEMS Server Standalone - Includes (PSE, SPFS, IEMS)	Included via NPM	Included via NPM	Included
IMM	Included	Included	Included
KandyLink	Included	Included	Not Supported
MAS (per blade)	Not Patchable	Not Patchable	Included
MDM (Multi-Service Data Manager) Solaris Based	Included	Included	Included
MDM (Multi-Service Data Manager) SSPFS Based	Included	Included	Included
Media Gateway 3200	Not Patchable	Not Patchable	Included
Media Gateway 3500	Included	Included	Not Supported
Media Gateway 3500 Manager	Not Patchable	Not Patchable	Included
Media Gateway 3600	Not Patchable	Not Patchable	Included
Media Gateway 3600 Manager	Not Patchable	Not Patchable	Included
Media Server 2000 (2010 or 2020)	Included	Included	Included
MG15K / PVG (Media GW)	Included	Included	Not Supported
MG7K / PVG (Media GW)	Included	Included	Not Supported

RibbonCare Service Description

Appendix C: Remote Scheduled SW maintenance

MG9K (Media Gateway 9000) Shelves (Per Shelf)	Included via NPM	Included via NPM	Included
MG9K Manager	Included via NPM	Included via NPM	Included
NetNumber	Not Supported	Not Supported	Included
NPM (Network Patch Manager) also includes MG9K, PSE, GWC, IEMS, SESM, QCA, SSPFS, SAM21EM	Included	Included	Not Supported
Nuera - BTX4K	Included	Included	Not Supported
OneEMS	Included	Included	Not Supported
PSX	Not Patchable	Not Patchable	* Included
QFLEX	Not Patchable	Not Patchable	Not Included
RSM	Not Patchable	Not Patchable	Included
S2 / S9	Not Patchable	Not Patchable	Included
S3	Not Patchable	Not Patchable	Included
SAM21 Shelf Controller (Per Pair)	Not Patchable	Not Patchable	Included
SBC: Q10, Q20, Q21, Q50	Not Patchable	Not Patchable	Included
SBC Core: SBC5K, SBC7K	Not Patchable	Not Patchable	*Included
SDM (CS2K Core Manager)	Not Supported	Not Supported	Not Supported
SEGW / WAG	Included	Included	Included
Session Server Trunks (NGSS)	Included	Included	Included
SmartOffice	Not Included	Not Included	Not Included
SP2K	Not Patchable	Included	Included
SPiDR	Not Patchable	Not Patchable	Included
SPM (DPT, IW-ATM, and IW-IP SPMs)	Included	Included	Included
Taqua T7000	Not Patchable	Not Patchable	Included
TMG3200	Not Patchable	Not Patchable	Included
TMG800	Not Patchable	Not Patchable	Included
UAS (Universal Audio Server)	Not Patchable	Not Patchable	Included
USP (Universal Signaling Point) Compact (Per Shelf)	Not Patchable	Not Patchable	Included
USP (Universal Signaling Point) (Per Shelf)	Not Patchable	Not Patchable	Included

*Software upgrade path must be validated for maintenance release application.

Included: Activities included with RibbonCare SW maintenance update service.

Included via NPM: Network Patch Manager will apply SW patches to these components.

Not Included: Activities which are available but excluded from RibbonCare SW maintenance Service.

Not Patchable: Products do not support SW patching.

RibbonCare Service Description

Appendix C: Remote Scheduled SW maintenance

Ribbon Responsibilities: Upon Customer request remote scheduled SOFTWARE maintenance

- Planning and scheduling, with input from Customer representative, of SOFTWARE delivery to be performed within a business day maintenance window. Maintenance release and software patch application will be performed during the agreed-upon maintenance window and following distribution of software to network elements.
- Performing of software maintenance activities in compliance with Ribbon standard specifications and procedures.
- Performing site readiness/health check assessment in compliance with Ribbon standard specifications and procedures to determine if conditions exist in the network that may need to be addressed before maintenance release application commences.
 - Includes basic element stability checks prior to any manual software maintenance SOFTWARE application. Checks look for common, symptomatic network anomalies that would prevent a successful deployment of software maintenance updates.
- Delivery and application of software patch(es) and/or maintenance SOFTWARE releases to Customer's network elements.
- The application of some product software maintenance updates may require a network element (or elements) to be taken out of service and/or restarted. Ribbon, in conjunction with the Customer, will manage this requirement.
- Removal of obsolete software maintenance releases at the next scheduled software maintenance update application.
- Will Provide electronic notification to the Customer upon successful/unsuccessful delivery of software maintenance updates.
- Will work in conjunction with Customer to identify and resolve software maintenance update download and software patch and maintenance release application failures that may arise during the delivery of the service. If applicable, RTS case will be opened, and Ribbon will leave the network in the same state as prior to the start of the SOFTWARE maintenance.
- Service does not include delivery and deployment of major SOFTWARE releases.
- With prior Customer agreement, for elements with established delivery auto-apply capabilities: CS2000, C20, CS2100, C15
 - Download and application of Emergency (EMG) category software maintenance updates will occur within three business days from the time the software maintenance update is released. For elements without auto-apply capabilities or disruptive EMG software maintenance update, a schedule will be negotiated between Ribbon and Customer for application of EMG software maintenance update.

RibbonCare Service Description

Appendix C: Remote Scheduled SW maintenance

- Removal of software maintenance updates categorized as Obsolete Emergency (OBE) within three business days.

Customer Responsibilities: Upon Customer request remote scheduled SOFTWARE maintenance

- Registering for technical support portal access.
 - It is from within the Ribbon technical support portal that Customer may navigate to and submit a SOFTWARE maintenance scheduling request.
From Tools and Services Tab (top of support portal page) select GENBAND tab, scroll down to SOFTWARE SERVICES PORTAL Schedule Upgrade Service.
- Ensuring enough storage space is available to store delivered SOFTWARE.
- Ensuring any issues identified by health checks are corrected one business day prior to the start of the maintenance SOFTWARE delivery and or application activity and troubleshooting of all alarms prior to scheduled software maintenance SOFTWARE application activities.
- Providing of technically knowledgeable representative during all software maintenance activities, and technically knowledgeable resources available to travel to site to address site-related issues that may arise during off-shift hours.
- Developing and execution of critical functionality test plan pre- and post-application of maintenance software releases and patches to validate software insertion.
- Review of documentation provided by Ribbon pertaining to the software maintenance and site readiness activities.
- New hardware deployment when required to meet the requirements for software maintenance prior to SW application.
- Ensuring element software to be used by remote Ribbon personnel to perform software maintenance application is available and downloaded/inserted into the appropriate device prior to start of SW application activities.
- Activating (ACT) software maintenance updates (software update packages and/or maintenance releases These software maintenance updates will be applied as necessary, but the activation activity is responsibility of Customer.
- Notifying Ribbon promptly of any problems or developments that could impact the agreed-to scope of work and/or planned schedule. Reschedule dates will be reviewed based on personnel availability.
- Software maintenance (software update packages and/or maintenance releases) for SW with a status of V (verification office) may be downloaded and applied for sites that are identified as a verification office. If the site is not a verification office, then written permission is required from the Customer and Ribbon support teams.

RibbonCare Service Description

Appendix C: Remote Scheduled SW maintenance

- If auto apply product functionality to be used (available for CS2000, C20, CS2100, C15) ensuring auto- apply is enabled on each element to receive SW maintenance and set to run nightly.
 - Because auto-apply runs automatically it is Customer's responsibility to escalate to Ribbon any alarms that are generated after auto-apply runs. The Ribbon software maintenance update applicator will address alarms generated as a result of their scheduled cycle software maintenance application.
 - It is Customer's responsibility to maintain backups, performing backups before and after Ribbon software maintenance application.