





PortaSwitch New Features Guide

MAINTENANCE RELEASE 80

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Preface

PortaSwitch® Maintenance Release 80 is the next long-life release which is mainly focused on improved system stability. It is supported with bug fixes, contains minor improvements and offers other software support for an extended period of time, thereby enabling customers to better plan the evolution of their PortaSwitch® systems.

Where to get the latest version of this guide

The hard copy of this guide is updated upon major releases only and does not always contain the latest material on enhancements introduced between major releases. The online copy of this guide is always up-to-date and integrates the latest changes to the product. You can access the latest copy of this guide at www.portaone.com/support/documentation/.

Conventions

This publication uses the following conventions:

- Commands and keywords are given in **boldface**.
- Terminal sessions, console screens, or system file names are displayed in fixed width font.

The **exclamation mark** draws your attention to important actions that must be taken for proper configuration.

NOTE: Notes contain additional information to supplement or accentuate important points in the text.

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Timesaver means that you can save time by performing the action described here.



Archivist explains how the feature worked in previous releases.

Gear points out that this feature must be enabled on the Configuration server.



Tips provide information that might help you solve a problem.

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SMS processing via Protei SMSC

With this release, CSPs can provide SMS services to their mobile subscribers and charge them for SMS delivery in real-time using PortaBilling® and Protei SMS center (SMSC).

PortaBilling® functions as an OCS and communicates with Protei SMSC via the Diameter (Ro) interface with the direct debiting authorization mode.

When John Doe sends an SMS, Protei SMSC sends the CCR (Credit Control Request) Diameter message of the Event_Request type to authorize John's account in PortaBilling®. Upon successful authorization, PortaBilling® sends a CCA (Credit Control Answer) message back to Protei SMSC and immediately charges John's account for the SMS. The SMSC then delivers John's message to the recipient.

PortaBilling[®] controls John's balance and service quotas to deny SMS service when he has no funds or exceeds the allocated quota and to resume it when funds are replenished or a quota is renewed.

CSPs can also send SMS notifications to subscribers about various billing events (e.g. exceeding a credit limit or a balance top up). PortaBilling® communicates with Protei SMSC for SMS notification delivery via PortaSIP®.

Following the example above, to notify John about reaching his credit limit or making a successful password change, PortaBilling® creates a notification and sends it to PortaSIP®. PortaSIP® sends it to Protei SMSC via the SMPP protocol. The SMSC then delivers the SMS to John's phone.

With this integration, CSPs receive a cost effective solution to provide SMS services out-of-the-box. They also improve the customer experience since SMS notifications are a convenient way to notify subscribers about their activities in a timely manner.

Fallback call delivery in dual-version PortaSwitch®

To find which system in dual-version PortaSwitch® will process an incoming call, the dispatching SBC matches first the destination number and then the source number against the account / DID list in the database.

If the dispatching SBC cannot find the target system for some reason (e.g. there is no record in the database to match the destination number), it now sends the call to a fallback system. In that system, PortaSIP® authorizes the call in PortaBilling® and receives the correct routing to deliver the call to the recipient. The alter-ego system is the fallback system by default.

You can configure a fallback system for a dispatching SBC to send calls. For example, if you have just deployed dual-version PortaSwitch® and haven't yet migrated customers to the alter-ego system, define a production system as the fallback one. Select a billing environment from the production system in the **ForwardingRegistry.fallback_env** option on the Configuration server.

Servers Sites Configurations & Enviror	ments) Users) Update G	🔝 👻 demo
Create Clone Delete Compare		
🕞 Clone 🙀 Save 🥻 Verify 🥻 Change Monitor	Thresholds 🔄 Compare network configurations Search:	
PortaSwitch Configuration PortaMonitor Con	nfiguration	
Configuration Tree +	Groups	
📑 Instance create 🛛 🗈 Clone cluster 📑 Delete clu	ster 🌸 DispatchingNode	
😑 🍩 PortaSwitch	DispatchingSBC	
🗃 🏐 Auxilaries	🌸 ForwardingRegistry 🛛 🔙 📟 📟	
- CalRecording	A LimitControler	
ClusterSuite Diameter Cluster Front-end	ab Log	
ADIUS Proxy Cluster	/PortaSwitch/ClusterSuite/PortaSIP Cluster/sip-cluster-1@performance/G:ForwardingRegistry	
PortaSIP Cluster	domestic_forwarding_list	0
🗉 🎱 sip-cluster-1@performance 🛛 📹 🖬	💼 🗉 e fallback_env 🛛 💻 🌩 performance	2
⊕ ⁽) Web Cluster	foreign_forwarding_list sip:81.81.81.170:5060;transport=tcp?ienv=3	20
- li Configurator	sip:81.81.81.170:5060;transport=udp?ienv=3	0
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a 🏐 DB		
CogServer Gerver		
- WRI		
Task monitor		

Then when the dispatching SBC cannot identify where to dispatch an incoming request, it routes this request to the production system for further processing.

The ability to define the fallback system increases the call success rate in dual-version PortaSwitch® and therefore improves customer experience.

Other features and enhancements

- Improved API operation in dual-version PortaSwitch® These enhancements serve to simplify the communication of API applications (custom self-care portals, CRM systems, etc.) with dual-version PortaSwitch® and therefore minimize their modifications:
 - WebDispatcher now automatically sets the session context for all API methods that include i_customer / i_account values in their input parameters. WebDispatcher saves the

set context for further requests. For example, an API application calls the get_account_list method with the i_account attribute in the request. WebDispatcher detects that the account resides in the alter-ego system and executes the method there. Next, the API application calls the get_product_list method. WebDispatcher runs it on the alter-ego system. This preserves the workflow for API applications and reduces the number of customizations required to make them compatible with dual-version PortaSwitch®.

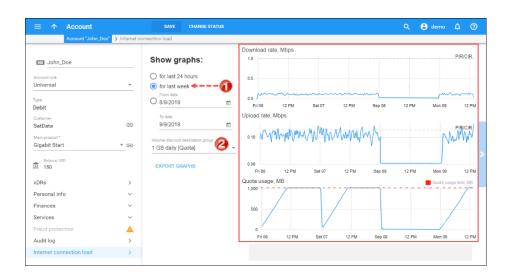
 WebDispatcher automatically sets the session context for the API requests that include the i_customer value specified in the managed_by input parameter. For example, to retrieve all the products managed by the ABC reseller, the API application calls the get_product_list method and sends the ID of this reseller within the managed_by attribute. The WebDispatcher detects that the ABC reseller belongs to the production system and thereby executes the API request there.

NOTE: The reseller must be active in only one of the systems. WebDispatcher automatically sets the session context to the alterego system if the reseller is active in both systems (when some of their customers are moved to the alter-ego system).

- Any entity created in dual-version PortaSwitch® receives a unique ID. All entities created on the production system receive an odd ID value, while entities created on the alterego system receive an even ID value. This type of distribution prevents data collision during migration from one system to another.
- Data usage graphs for satellite Internet users In addition to upload / download rate graphs, you can now view data usage statistics for satellite Internet users in PortaBilling®.

Let's say John Doe uses a daily quota of 1GB and complains that the Internet did not work for one day. The administrator checks John Doe's upload / download rate and data usage statistics for the last week and sees that John Doe did not have a functioning connection to the Internet for one day. Further investigation shows that the Internet was unavailable due to the provider's connectivity issues.





As compensation, the administrator provides John Doe with free Internet quota for one day.

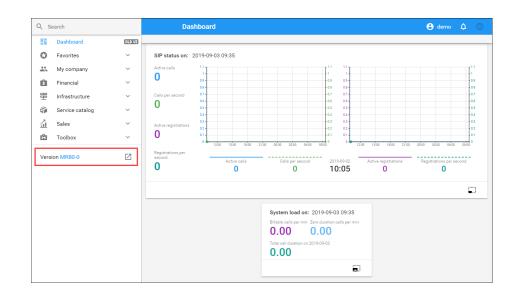
This enhancement simplifies service usage monitoring and helps solve disputes.

Service usage graphs are available as a separate plug-in. Please contact the PortaOne® support team for assistance with plug-in installation.

Web interface changes

• **PortaBilling® version and new features description** – With this release, you can view the current version of your PortaBilling® installation on the administrator's dashboard. It also contains a link that redirects you to the New Features Guide, where you can get acquainted with all the new features in your current version.





• Expand / collapse log requests for billing logs to refine the data display for logs with a large number of requests (e.g. hide unnecessary ones). This facilitates troubleshooting.

\equiv \uparrow Log viewer	SAVE LOG SEND TO RT		performance	🙁 demo	¢	0
Session summary > Session lo	gs					
λ 7067772E 706F7274 616F6E65 A 🔇		ADVANCED VIEW				
Summary H323-conf-id 7067772E 706F7274 616F6E65 A03FB	2019-09-06 10:11:22.905000	CLD: Ite.swiftng.com; User name: 3809300	100001@msisdn;		#	
Call-id	2019-09-06 10:11:22.905000 SIMPLE	Processing request (BE ver:mr80-0-branch,cl	uster:21800)			
pgw.portaone.com;1629269827;2;nono To (CLD) Ite.swiftng.com	2019-09-06 10:11:22.907000 SIMPLE	Session-Id = Crigin-Host = Origin-Realm = Destination-Realm =	<pre>'pgw.portaone.com;1629269 'pgw.portaone.com' 'portaone.com' 'portaone.com'</pre>	827;2;nonode@noh	ost'	
Merge sessions 🗸 🗸		Service-Context-Id .	= '4' = '3225103gpp.org' = 'INITIAL REQUEST'			
Show packets for this period:		CC-Request-Number = Destination=Most = Origin=State-Id = Event-Timestamp = Subscription-Id = Subscription-Id-Type	- '0'			
Components ^		Subscription-Id =	= '380930000001' = 'END-GROUP' = 'BEGIN-GROUP'			
Porta billing Collapse / Expand			= 'END_USER_IMSI' = '380500000001' = 'END-GROUP'			
Settings ~	I	Multiple-Services-Indicator = Multiple-Services-Credit-Control = Requested-Service-Unit Requested-Service-Unit Rating=Group Multiple-Services-Credit-Control =	= 'BEGIN-GROUP' = 'END-GROUP' = '100'			
		User-Èquipment-Info = User-Equipment-Info-Type User-Equipment-Info-Value	- LND GROUP' = 'IMEISV' = 'IMEISV' = 'k@5 \022XB\000' = 'END-GROUP'			
		Service-Information = PS-Information 3GPP-Charging-Id 3GPP-PDP-Type	<pre>'BEGIN-GROUP' 'BEGIN-GROUP' '92858118' = '0'</pre>			
		PDP-Address 3GPP-OPRS-Negotiated-QoS-Profile SGSN-Address GGSN-Address	= '10.200.21.89' = '10.200.21.89'	14c0'		
		CG-Address 3GPP-IMSI-MCC-MNC 3GPP-GGSN-MCC-MNC	= '10.200.19.5' = '62126' = '62126'			

Important upgrade notes

• **Token-based authentication for PortaPhone** – PortaPhone can now be authenticated in PortaBilling® via an API token. This increases security in their communication and prevents malicious activities in your system. Porta 🇹 Switch*

The use of a username / password pair for API authentication is no longer supported. Therefore, you must reconfigure the provisioning module in PortaBilling®:

• Generate an API token for a PortaBilling® administrative user.

≡ ↑ User		SAVE		۹	😫 demo	¢	0
User "demo" > Web set	f-care						
demo Email * vms@example.com Role * Root		Web self-care Paseword * Allow access only from trusted IP addresses	© _				
Mask personal information in data accessed by this user		API token access					
General configuration	>	5e5f6bda-a3cb-45dd-50a2-6	ē				
Address information	>	Redirect the user to the alter-ego					
Web self-care	>	system if opening a ported entity					
Notifications Audit log	> >	Time zone America/Vancouver	*				

 Specify the API token in the AcrobitsSignup.PortaBillingAPIToken option on the Configuration server.

Servers Sites Configurations + Environme	ents Users Update 😔		🔬 + porta-support		
Configuration '1567463893 1567520609 cloned or	provision-rev 2' information				
🔂 Clone 🔄 Save 📝 Verify 📝 Change Monitor Th	-	Search:			
PortaSwitch Configuration PortaMonitor Config					
	* Environments	Groups			
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Oprita Switch	⇒ pb				
Auxiliaries	3 Finance	ACL			
B () CallRecording	performance	AcrobitsSignup			
GusterSuite	BEConformance	ActiveCalls			
Diameter Cluster Front-end	a soapcover	AdaptiveRouting			
ADIUS Proxy Cluster	Porter_Export	AddAccount			
PortaSIP Cluster Web Cluster	Screenshote	AdvancedFeatures			
web-cluster-1	/PortaSwitch/ClusterSuite/Web Cluster/G:Acrobit	tsSignup			
Configurator	AcrobitsCloudId *	PORTAPHONE	2		
BillingEngine	AlternativeAPIServers	Torona Hone	0		
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	B • Enabled *	Yes	3		
	PhoneNumberStartSymbols				
	PortaBillingAPILogin *	demo	2		
	OrtaBillingAPIServerURL				
	PortaBillingAPIToken *	5e5f6bda-a3cb-45dd-50a2-697b624ed208	3		
	-	aBilling server. For example, x0000000-x000-x000-x000-x00000000000	-		
	B • Product				
	ProvisionURL				
	B ServicePasswordComplexity *	Latin letters (a-z or A-Z) can be used	0 0		