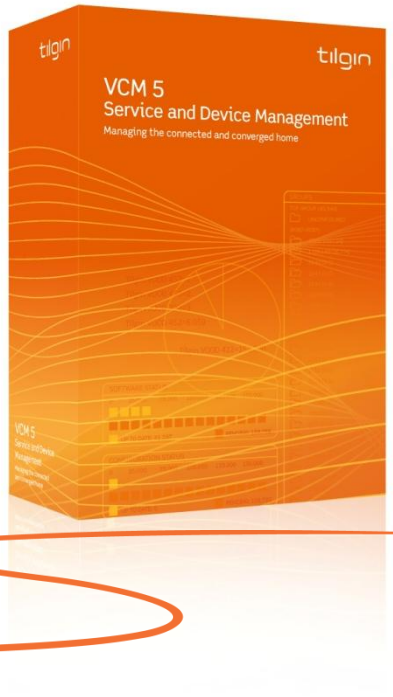
VCM 5

Full-featured Auto Configuration Server

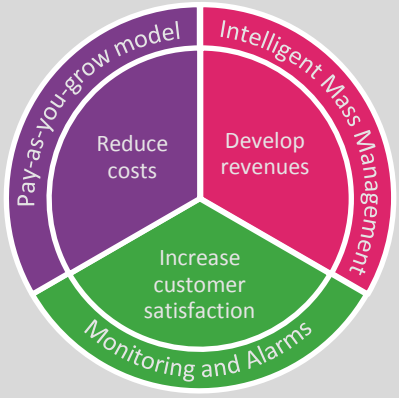
Introducing the new generation of remote management systems



With its advanced subscriber care features coming straight out of the box, VCM 5 allows service providers to do more than simple service provisioning. ACS users are placed in a proactive role when taking the reins of VCM. VCM empowers them to increase customer satisfaction and deploy new services in one click.

VCM highlights

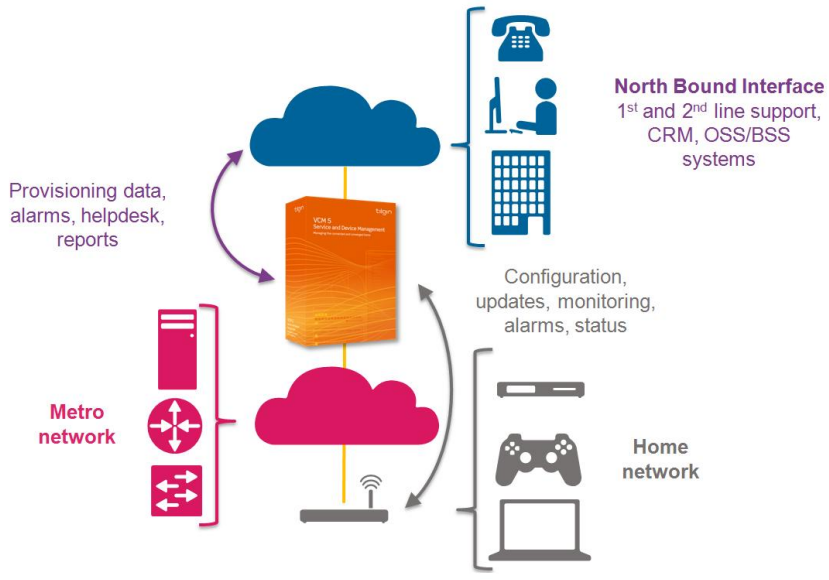
- **Complete TR-069 support**
- **Intelligent Mass Management**
  - Flexible provisioning
  - Configuration handling
  - Firmware upgrades
- **Extensive NBI**
  - Alarms, SNMP traps, emails
  - SOAP API
- **Proactive subscriber care**
  - Alarms
  - Live dashboard
  - Real-time monitoring
- **User-friendly GUI**
  - Fully localized
  - Workflow-centric
- **All features out of the box**



Our TR-069 ACS, VCM, now in its fifth edition has been deployed commercially since 2001 and is one of the most mature product for device management in the market. A modern ACS is an essential part of a service provider's strategy to reduce operational costs, develop revenues and increase customer satisfaction.

VCM is a comprehensive management platform for multi-vendor CPE deployment, leveraging complete TR-069 support. VCM complies to all relevant specifications to manage all services beyond triple play on Home Gateways as well as Set-Top Boxes or VoIP phones. With a single management platform, the operational costs are kept at a low level while enabling rich service portfolios.

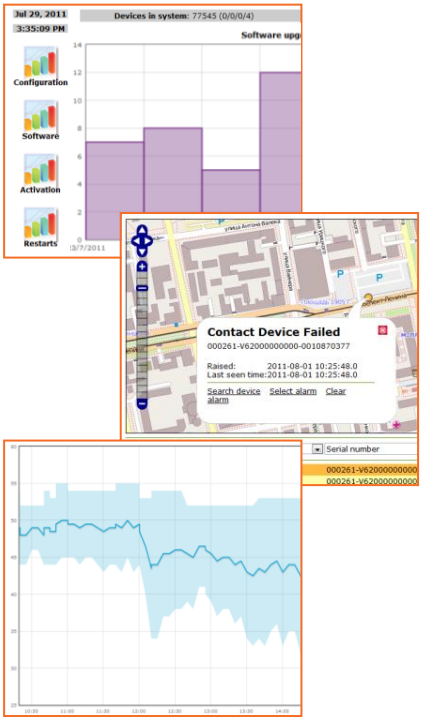
Through its rich Northbound Interface (NBI), VCM fully integrates in the workflow of service providers and their OSS/BSS ecosystem. With VCM, initial provisioning and service-level upgrades can be fully automated to reduce the rate of costly truck-rolls and manual interventions.



VCM 5

Complete control over your deployment

VCM puts service providers in full control of their deployments where historically they had either simple file servers with no real interaction with their devices, or worse, only manual interaction with these devices. Thanks to the open TR-069 standard and a brilliant design coming from years of experience, VCM brings all the devices in a service provider's network under one consolidated management platform. In the VCM interface, live data about all devices can be found: software version, ACS and local configurations, full status reports, diagnostics reports, but also monitoring data for specific parameters. All this data is available at all levels, whether you are working with one specific device or with a population of millions of units.



Integrated & live data

All the data in the VCM is alive. From the dashboard which summarizes the population status for different factors (software upgrades, newly activated devices, alarms, etc.) to the status reports and monitoring available each device, VCM can both provide a historical overview of the data as well as the latest values. In the dashboard, VCM users can see at a glance the overall health of the deployments and catch major problems as soon as they occur. All graphs of the dashboard also offer a drill-down functionality: the numbers turn into a concrete list of affected devices, or ongoing alarms. Via the graphical user interface or the Northbound Interface, all data is available and can be set, updated, and accessed. Do you want to get a customized report on the local values of some KPI from a device? It is possible to get those in real time, or from the cache to instantly know the last status of a device, even if it went dark.

Intelligent Mass Management

With VCM Intelligent Mass Management feature, service providers dispose of the right tools for their operations: from taking care of a single device to managing complex sets of services deployed on millions of devices. With its grouping system, it is very easy to use VCM to apply changes on entire chunks of the population when doing maintenance, but also to work with smaller batches - by regions or cities for instance - which allows operators to upgrade their networks in a controlled way, but also allows to quickly resolve wide-spread issues without waiting for each customer to call the helpdesk. The very flexible grouping mechanism also make it easy to add new services or phase out old ones, as well as facilitate service upsell for existing customers.

Scalable Cluster Solution

VCM scales and can manage millions of devices with complete redundancy. The clustering architecture in use in VCM allows to start deploying with a single node and progressively add a redundant server to guarantee uptime, and later support further load by adding one or more front-end nodes. With a virtually limitless number of front-end nodes to serve devices and up to two redundant back-end node to serve the database transactions, the NBI, and the GUI, there will be no costly downtime and operational availability will be maintained at all times.

Powerful Helpdesk

VCM offers two optional modules, ready to be used out of the box in order to maintain a high level of customer satisfaction and reduce churn: the Helpdesk module and the Alarms module described below. With the Helpdesk module, service providers can shorten the duration of subscriber calls by presenting all the necessary data to the call center staff: no need to connect to any command line or remote device GUI, all the information pertinent to the call (device history, KPI values, real time status report, diagnostics downloaded from the CPE, etc.) are directly available from VCM.

Maps are also available to locate devices geographically and give additional context to the call center staff in treating the problem and interacting with the subscriber. All these powerful tools allow the call center staff to more efficiently resolve the problems and handle subscribers

Proactive Subscriber Care

One of the key advantages of VCM is its proactive component: the Alarms module. It is possible in VCM Helpdesk module to monitor any parameter on one, several, or all devices over time, and trigger alarms upon reaching certain levels, high or low. All parameters can be monitored in this way and be used to proactively detect issues, but also to review the history of a device when troubleshooting. Monitoring devices shows all its power when coupled with the Alarms functionality. Besides triggering when certain thresholds are attained for designated parameters, alarms can trigger on a number of events defined in VCM: failed software update, dropped connection, etc. Each alarm can trigger an email or a SNMP trap and propagate upwards, making sure no issue is left unnoticed. Network Operation Center teams can always be on the deck, tending to issues. Top-priority alarms can be triggered when high volumes of alarms are reached; and in case an alarm condition has been resolved, alarms can automatically be cleared. With VCM it is easy for all teams to focus on the key issues at hand and resolve them before they are perceived by the subscribers.

Broadband Forum standards

TR-069 Amendments 1 & 2, TR-098 Amendment 2

TR-104, TR-106, TR-111, TR-135

TR-140 Issue 1.1

Technology

Oracle MySQL database with master-master optional replication

Axis SOAP API for a standardized NBI

Built on Java

apache web server for increased performance

SNMP, JMX

Ready for IPv6 services

VCM in numbers

Used in over 25 countries by over 50 tier-1, tier-2, tier-3 operators

In commercial deployments since 2001

Interoperable with more than 30 CPE manufacturers

Manage millions of CPEs in one system

Minimum technical requirements for VCM

Server: SuSE SLES 10SP2+

Dual-core AMD 64-bits CPU

2x NIC 10/100/1000Mbps

Client: Modern web-browser

No client, extension, or plug-in to install

VCM out-of-the-box feature list

Dashboard updated with live statistics

Single and multi-device management of configurations and software versions

Intelligent Mass Management with groups

Customer information for each device

History, real-time status and monitoring, diagnostics tests for single and multiple devices

Proactive Alarms functionality based on presets and customized monitoring sessions

Customizable user roles, permissions, and views

Hosted solution

Fully localized, user-friendly GUI designed to enable smooth workflows

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