

# VCM

## Vood Center Manager



VCM offers secure and effective remote provisioning and CPE management. It provides full operator control over mass-market CPE deployments and offers dramatic benefits for administration, service management and helpdesk operations.

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When your subscription goals run into the hundreds of thousands, the numbers alone invoke a critical requirement for management on a comparable scale.

In place since 2001, VCM is mature technology that has set the standard for CPE WAN management and continues to raise the bar. VCM is a comprehensive remote management solution that supports key industry standards for multi-vendor CPE deployments. It changes large-scale management from a costly operations bottleneck into a business enabler that improves your manageability, streamlines your administration and satisfies customers.

VCM enables you to save money by delivering completely hands-free CPE installation and automated service management on a massive scale. It also allows you to establish long term margins by enabling you to easily offer and remotely manage service enhancements far beyond basic services.

VCM effectively moves your network edge onto the home premises, keeping you in full control of your CPE and broadband services. It not only equips you with the tools to differentiate yourself from the competition, but it also supplies your helpdesk operations with important status and statistic report information that makes you more cost effective and improves customer satisfaction.

#### **The central VCM design concept is provider control**

The VCM makes available a comprehensive granularity of configurable service options that include QoS managed per subscriber and per service. With full control, your service level offers adapt to your evolving business strategy, reducing your business risks as well as your costs.

#### **Plug n Play Registration**

The VCM provides a full range of automated registration options to accommodate your chosen business model with regard to differing access networks.

#### **Automated provisioning**

VCM automatically and cost effectively provisions both CPE and service level upgrades over the life of a subscription. Provisioning can initiate from the WAN-side as with software version upgrades or from the LAN-side if integrated with a self-service subscriber portal.

#### **Hierarchical Group Management**

Terminal groups map directly to your service spreadsheet so terminals may be grouped by service levels, geography or any other criteria that serves your business plan. Many thousands of terminals can then be handled as a single, drag and drop object, dramatically reducing terminal administration.

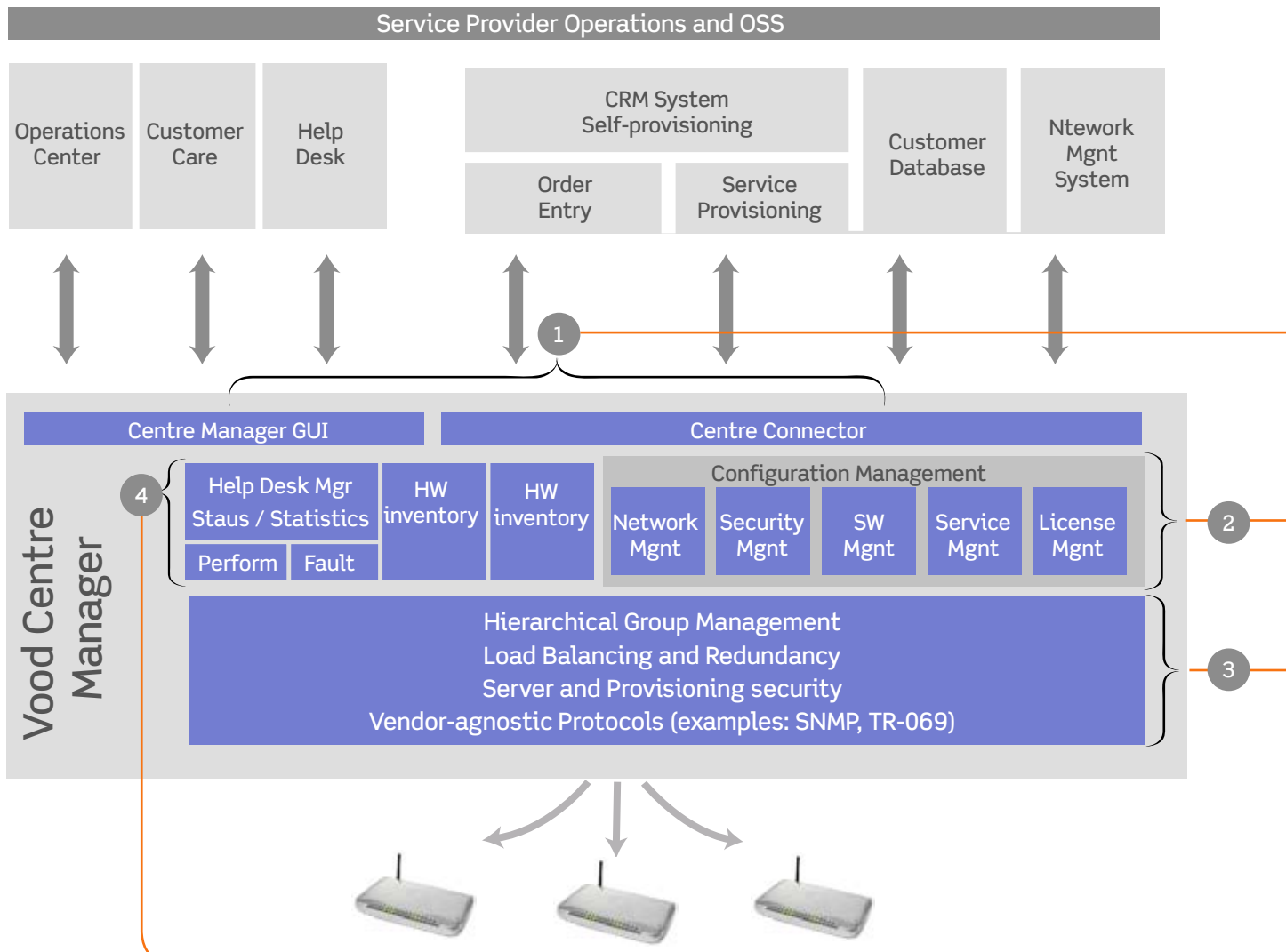
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# Comprehensive CPE management: the Vood Centre Manager

The Vood Centre Manager (VCM) is the element management system for IP Residential Gateways serving VoIP technologies and Triple Play services. The VCM enables secure, high-performance provisioning and hands-free service management for large-scale networks of gateway elements including:

- PnP gateway registration (SIP, MGCP, H.323)
- Automated start-up software provisioning
- Subsequent automated service upgrades
- Real-time (push) and deferred (poll) provisioning
- Scriptable stateful inspection firewall
- Status/performance monitoring
- CPE statistics gathering
- Helpdesk Manager
- Massive-scale CPE group management
- Role-based administrative access/privileges.

VCM also provides the API towards your external applications, enabling streamlined access controlled operations with your web-based helpdesk, ordering system or customer database.



## GUI interface & CPE management suite

- Hierarchical Group Management (HGM)
- Secure remote access to individual CPEs
- Dynamic data models
- Driven by CPE specific Metadata (XML file)
- Unified interface, permissions-controlled for different user groups:
  - Server administration
  - Operator managing CPEs
  - Helpdesk
  - Customer Care
  - Network Maintenance

### Centre Connector

The Web services interface is an integrations platform for flow-through operations to northbound OSS applications. Programming is in Java, C++, Perl etc

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## Configuration Management

### Centrally Managed Network Configuration

- WAN
- VLAN, PVCs, QoS
- LAN (fixed & wireless)
- Multicast handling

### Managed Security Services

- Rules-based stateful inspection firewall
- User-password access to web applications
- WEP, WPA WLAN security

### Software Management

- Initiate provisioning from VCM
- Initiate provisioning from CPE
- Administrate per:
  - software type
  - service group
  - custom group
  - subscriber

### Comprehensive Service Management

Operator control over service level differentiation factors is comprehensive in scope to enable flexible service level strategies. Service parameters can be adjusted, enabled or disabled either for a single CPE or for a folder into which whole groups of CPEs may be dropped. Gateways are then automatically re-configured for the new services with no intervention by subscriber or operator.

Combined with the ability to extend this platform to your self-service ordering applications, VCM provides dramatic advantages in terms of flexible service offerings, time-to-market and cost-effective service management over the lifetime of a service agreement and across massive-scale CPE deployments.

### Central License Management

- CPE volume licences
  - Answering machine
  - Unified Voice Mail
  - Statistics Reporter
  - T.38 Fax
  - TR-069
  - G.729 voice codec\*
  - G.723 voice codec\*
- (\* Optional codecs)

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### Hierarchical Group Handling with massive-scale manageability

Gateways may be grouped according to any criteria that serves your business model. If, for example, gateways are grouped to reflect geography, simply dropping a new subscriber into the appropriate group causes the gateway to automatically download correct dial plans and parameter configurations for the geographical area.

If grouped by service levels, upgrading a customer to a higher speed connection or an answering machine service or Triple Play services is no more complex than moving them to another folder. All relevant re-configurations are automatically downloaded.

This means zero intervention for end-users and minimal effort for providers. Several hundred thousand gateways can be re-configured by just dropping one folder into another. The platform is extendable to self-service subscriber portal applications where a subscriber's choices are mapped to a change of service group for a completely hands-free service management solution.

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### Load balancing and redundancy options

- Large-scale network capacity per VCM server\*
- Front-end server & back-end database for higher capacity requirements
- Load balancing options for even higher capacity
- Database "hot copy" for redundancy

\* Standard dimensioning: 1 week (6 hrs per night) to upgrade software in 3 million CPEs with Sun Fire V20z

### CPE Vendor Agnostic\*

VCM supports all CPE types from low-end Terminal Adapters to high-end Integrated Access Devices.

\*CPE design can limit the range of VCM functions

### Server /Provisioning Security

- PKI device authentication (RSA)
- Role-based administrative permissions
- Configuration & software transfers are AES encrypted

### Help Desk Manager

Collects line gateway support information on network connections and wiring within the home. Provides a secure, remote connection to CPEs.

### Status /Statistics Reporting

Generates views of performance and other data collected by the VCM from CPEs. Statistical reports plot a selected variable against a selectable time span for business /or load subscriber behaviour analysis.

### Performance Management

- Boot duration per box
- Voice quality reports
- Network perform reports

### Fault Management

- Boot failure /unregistered
- SW upgrade failure
- Connection status
- System log
- Voice status

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#### **Hardware requirements:**

The following subset of hardware must be present to achieve full VCM functionality as well as Tilgin support options.

- Certified for Novell SuSE Linux Enterprise 9 for AMD64, Service Pack 2 for Suse SLES 9
- Dual 10/100/1000 Ethernet interfaces
- CD/DVD player
- Hard disk min 80 GB
- Ram min 2048 MB
- CPU 2 x AMD Opteron model 250 or higher

#### **Verified Server Platforms**

VCM-releases are verified against Sun Fire X4100 x64  
Server: X4100 Server: A64-NGB2-2N-2G-AL7

- 2x AMD Opteron
- Model 252 (2.6Ghz/1MB) processor,
- 4x 512MB PC3200 DDR-400 memory,
- 2x73GB 10K RPM 2.5" SAS disk
- DVD-ROM,
- 4x 10/100/1000 Ethernet ports,
- Certified for Novell SuSE Linux Enterprise 9 for AMD64, Service Pack 2 for Suse SLES 9

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