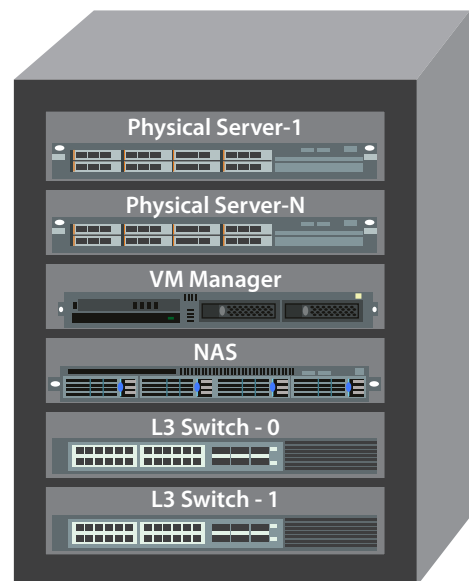


# WorldGSM™ OMC Solution

## COST EFFECTIVE E2E REMOTE NETWORK MANAGEMENT

- Intuitive, User Friendly GUI
- E2E Management BSS, Power and Transmission
- Lower Total Cost of Ownership
- Simplified Remote Network Management



*OMC Solution*

# WorldGSM™ OMC Solution

## DETAILS

### A SIMPLIFIED APPROACH TOWARDS NETWORK MANAGEMENT

WorldGSM™ Operations & Maintenance Center (OMC) provides a cost effective, carrier-grade network Management solution which enables efficient network management and a high quality network and thus, helps operators to address rural and remote markets profitably.

WorldGSM™ OMC can be tailored to meet the operator's requirements for both small and large networks. It is based upon a generic, multipurpose Network Management Framework. OMC is architected using the robust client - server architecture and can be easily dimensioned based upon the network requirements.

The WorldGSM™ OMC supports North Bound Interfacing with third party applications and can be extended to OSS locations.

### HIGHLIGHTS

- **User Friendly**  
*Task Specific & Intuitive GUI*  
*Job Scheduler*  
*Fast Navigation Between Components*
- **Designed Specifically for Rural Markets**  
*Auto-Configuration – Plug & Play*  
*Remote Diagnostics Facility*
- **North Bound Interfacing**  
*Fault Management over CORBA IRP*
- **Performance Monitoring**  
*Radio KPI's & Raw Counters*
- **High Availability**  
*For Uninterrupted Services*

### BENEFITS

- **Extensive Tool for Supervision, Configuration, Deployment and Optimization of GSM Network**  
*Tailored to achieve efficient work procedures in rural scenario.*
- **Integrated for Handling Sub-Networks (BSS/Backhaul/Power System)**
- **Rapid Fault Resolution**  
*Real-time alarm view with rapid fault localization and rectification.*
- **Achieving Minimal Downtime in Each Phase of Evolution**
- **North Bound Interface Towards Centralized NMS**
- **Scalable Architecture**
- **Consistent GUI**  
*Access to full range of features including fault, configuration, performance & security management.*  
*Shortened learning curve with an intuitive GUI.*



# WorldGSM™ OMC Solution

## TYPICAL DEPLOYMENT

VNL OMC is based upon a generic, multipurpose network management framework. It is architected using the robust client - server architecture and can be easily dimensioned based upon the network requirements.

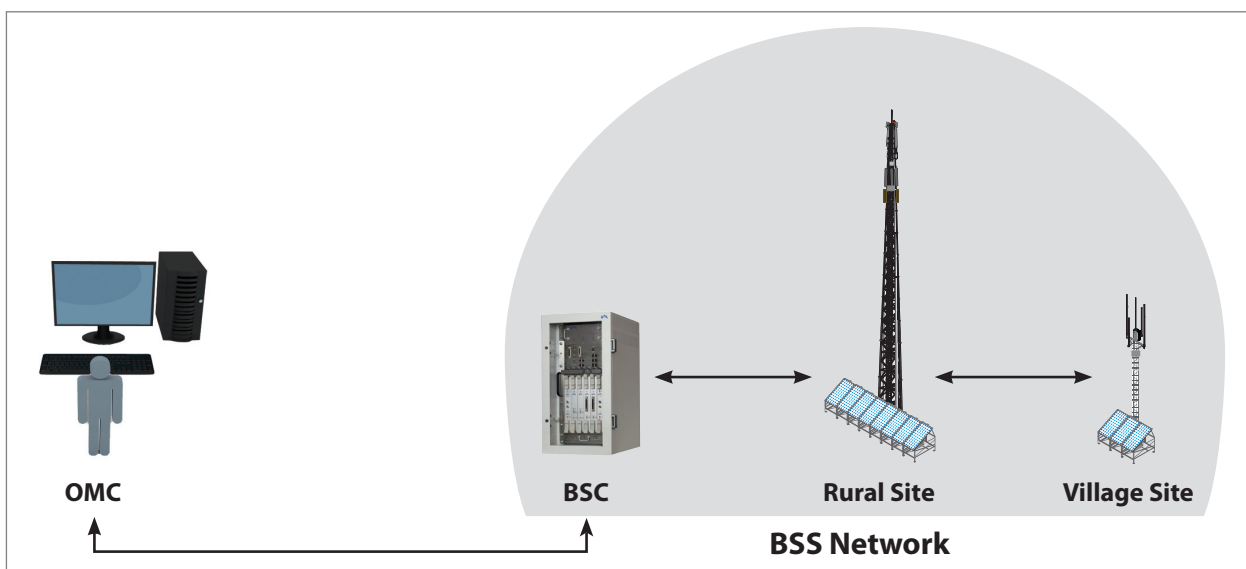
Along with common Element/Network Management functionalities, VNL OMC provides a set of features specifically designed to support Micro-Telecom (rural deployments). Features, like auto configuration and remote software managements are essentials for maintaining the geographically inaccessible cell sites.

The OMC is designed to meet following base objectives:

- **Service Assurance**
- **Integrated Management for Radio/Transmission and Power Resources**

### FEATURES

- **Fault Management**  
*Alarm & Perceived Severity Status on GUI*  
*Alarm Logs*  
*BSS Diagnostics*
- **Configuration Management**  
*Configuration at Network Element Level*  
*Easy to use GUI for Configuration*  
*Bulk Provisioning of Radio Resources*
- **Performance Management**  
*Performance Monitoring & Control at Element Level*
- **Security Management**  
*Restricted Access to EMS as Configured by Administrator*  
*User Profiling*
- **Software Management of All Managed Nodes**
- **High Availability**  
*n+1 redundancy*
- **Scalability**  
*Add capacity on demand*
- **Automatic Configuration**

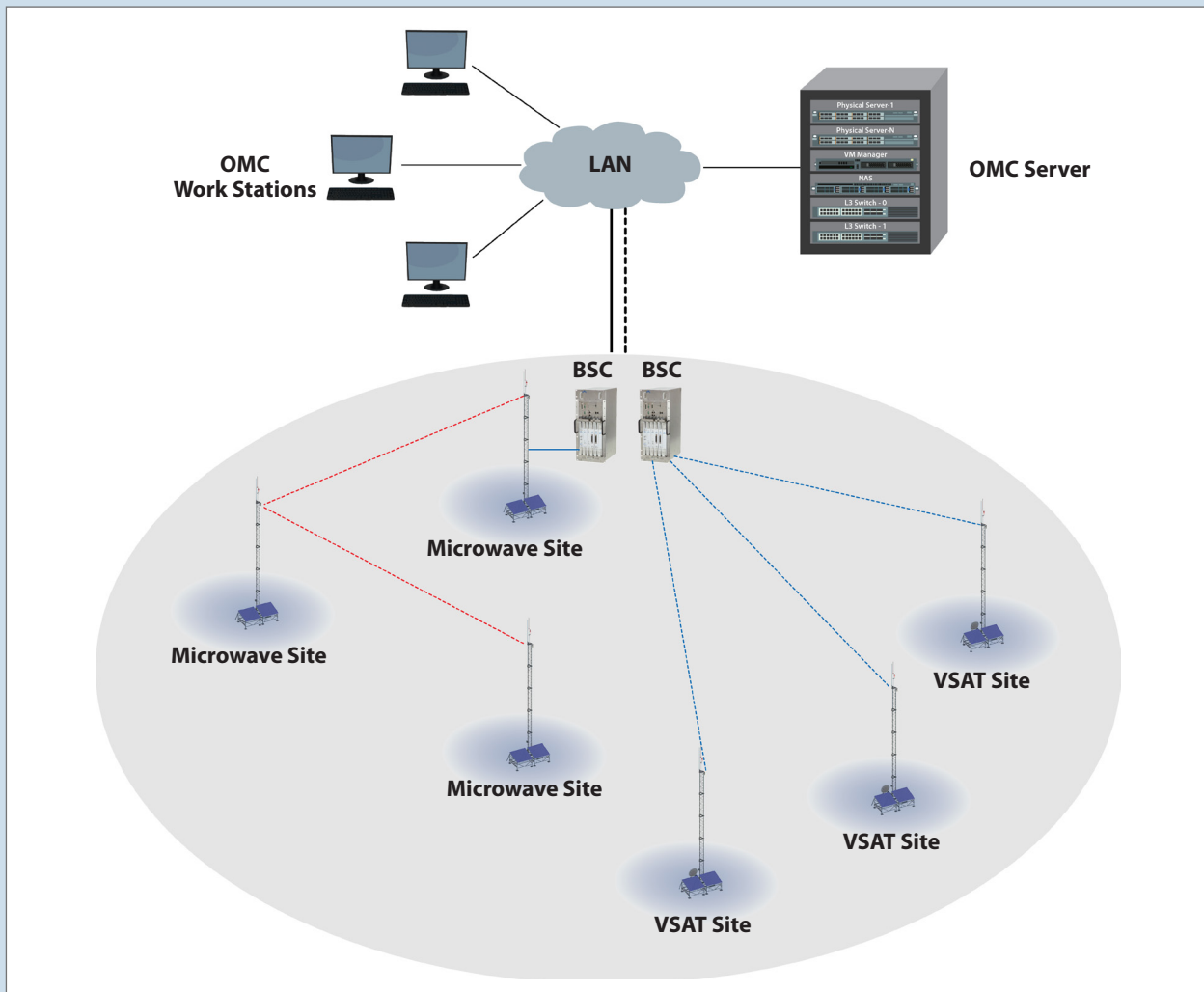


Centralized Network Management

# WorldGSM™ OMC Solution

## SPECIFICATIONS

HARDWARE PLATFORM	Physical Server (N+1)	VM Manager	NAS
Processor	2 x Intel Xeon, Quad Core	Intel Xeon, Quad Core	Intel Celeron, Dual Core
Memory	24 GB	4 GB	2 GB
HDD	3 x 300 GB SAS	500 GB SATA	Up to 3 x 1TB
RAID	RAID 5	Not Applicable	RAID 5
Ethernet Interfaces (10/100/1000)	4	2	2
Power Supply	AC100-240 V AC, 50-60 Hz, Dual	AC100-240 V AC, 50-60 Hz	AC100-240 V AC, 50-60 Hz, Single/Dual
Operating System	Oracle VM Server	Oracle Linux 6.6 OS, 64 Bit	Proprietary
<b>LAYER 3 SWITCH (1+1)</b>			
24 Port 100/1000 Mbps with 8 Combo Ports (Electric/Optical)			
<b>VIRTUAL MACHINE</b>			
OS	Oracle Linux 6.6 OS, 32 bit		
RAM	8 GB		
<b>SOFTWARE PLATFORM</b>			
Functionality	Radio, Transmission and Power		
3GPP Compliance	Release 5		
Protocol	SNMP v1, SNMP v2		
FCAPS Support	Yes		
NBI Support	Yes (Fault Management over CORBA)		
Job Scheduler	Yes		
Power System Monitoring	Yes		
Notification	E-mail & SMS for Alerts		
Geographical Viewer	Yes		
Remote Upgrade Supervision	Yes		
Security Administration	Yes		
Backhaul Transmission Management	Yes		
<b>CAPACITY</b>			
SNMP Managed Objects	"Typical 54 BTS Sites per Virtual Machine Including BSC, Transmission Nodes and Power System Nodes"		
<b>FORM FACTOR &amp; POWER CONSUMPTION</b>		<b>Form Factor</b>	<b>Power Consumption</b>
Physical Server		1U	650W
VM Manager		1U	300W
NAS		1U	150W
Layer-3 Switch		1U	43W



OMC Deployment Architecture

## ABOUT VNL

VNL makes WorldGSM™, a complete GSM and Broadband Solution that helps mobile operators reach rural markets profitably. It is completely solar powered and optimized for rural markets. For the first time, mobile operators can build profitable businesses serving low-ARPU users in rural and remote communities.

**The microtelecom revolution is ready to begin and VNL is leading the charge.**

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