PacStar®
Imagined. Engineered. Delivered.

PacStar IQ-Core® Software Intuitive Communications Management

PacStar IQ-Core Software is a robust communications management software platform providing:

- An **intuitive user interface** making set-up and operation by non-technical personnel quick and easy to learn with significa tly fewer mis-configu ation errors.
- **Powerful wizards** and alerts with common user interfaces across hardware and software applications automating complex and routine tasks.
- **Interoperability** with a broad range of tactical and enterprise communications hardware systems, consistent operation even with upgrade and replacement of system components.
- **Vendor agnostic remote management** with the ability to monitor, change device configu ations and troubleshoot from anywhere in the world.

IQ-Core Software manages the PacStar tactical communications products and is deployed broadly throughout the US Department of Defense as well as in civilian and public safety organizations. The software is also available for integration into customer-specified s stems.

PacStar provides IQ-Core Software today on numerous PacStar products, and has proven the software in the field with customers such as the US Army WIN-T program, the US DoD Joint Communications Support Element, the US Navy Deployed Joint Command and Control program, and numerous Army, Navy, Air Force, Joint commands, and NATO. IQ-Core Software is Information Assurance (IA) and Certific tion Ready - it has been included on fi e JITC-certified s stems. The software is in use by numerous civilian emergency responder and local government agencies as well, with thousands of copies deployed with systems today.

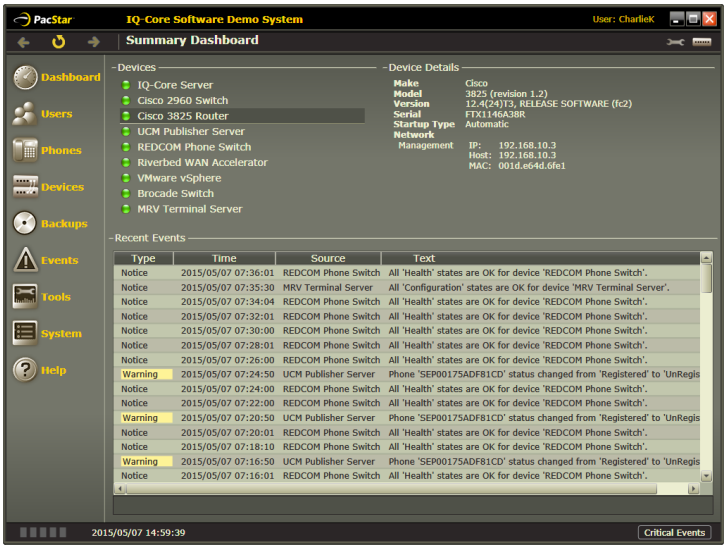

Fig. 1. IQ-Core Software summary dashboard manages a diverse set of communications equipment through a "single pane of glass"

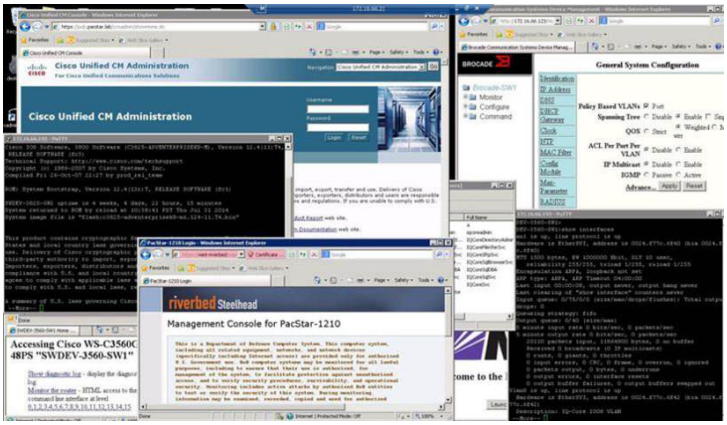

Fig. 2. Typical systems composed of commercial off the shelf equipment suffer from a high degree of complexity, requiring operators to undergo extensive training on multiple systems, with different user interfaces.

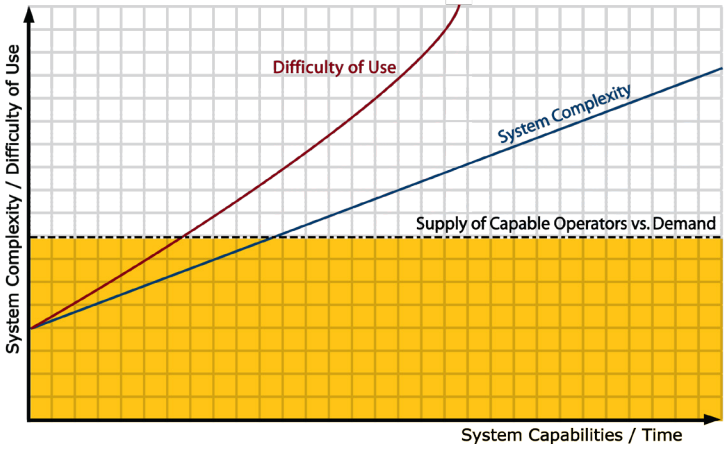

Fig. 3. System difficu y of use grows geometrically as system complexity grows linearly — outpacing supply of trained operators

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Key Benefits

- Technology optimized for the edge - Reduces requirement for advanced IT personnel by simplifying the interface of a complex network.
- A unified view - eal-time snapshot of the health of the network, and ability to provide backup and restorations of entire network.
- Interoperability - Integrates a broad range of data formats and communication protocols from multiple vendors.
- Adapts to user level - Designed for non-specialists, yet offers capabilities to meet the needs of advanced power users.
- Drives down costs - Reduces the number of specialists required to stand up and manage communications equipment, and reduces the training required.
- Enhances ability to meet mission objectives - Reduces setup time and improves uptime and configu ation management, allowing comms to adapt to rapidly changing circumstances.

Dashboard and Wizard Driven

IQ-Core Software provides powerful functions via dashboard screens and wizards. The wizard approach to tasks provides easy to follow, step-by-step procedures with a common look and feel across tasks.

Depending on customer equipment and customer use-cases, PacStar can tailor the features and wizards to provide optimal solutions – maximizing the benefits of the so tware. Wizards may also be customized by advanced administrators – disabling steps that are not allowed for operators, and setting defaults to streamline tasks

Shown to the right are several of the available user management wizard screens, illustrating the step-by-step and simple process to add a user – all completed without requiring training on multiple underlying systems.

Extensive Support for Commonly Deployed Devices

PacStar can quickly integrate support for a wide array of hardware and software using standard protocols. Device communication is via SSH, SNMP, Serial, and Web Services.

Currently supported devices:

- Acme Packet Net-Net 3800 (Session Border Controller)
- Aruba Networks Mobility/Branch Controller
- Avaya Aura Application Server 5300 (AS5300)
- Avaya ERS 4500 switches
- Brocade FCX Series switches
- Cisco® routers including:
  - 1800, 2800 and 3800 series ISRs
  - 1900, 2900 and 3900 series ISRs
  - 5915 Embedded Services Router (ESR)
- Cisco ASA (Adaptive Security Appliance) 5500-series
- Cisco Catalyst® 3560 and 3750 series switches
- Cisco ES 2020 switches
- Cisco Unified ommunications Manager (UCM) 7.x and 8.x
- Cisco UCM Express
- Cradlepoint Wireless Routers
- DRS UPS 2000 TR-III
- Microsoft Active Directory
- Microsoft Exchange

Fig. 4. to 6. View of three commonly used wizards

- Microsoft Windows servers and workstations
- MRV Terminal Server
- NET VX 400 and VX 900
- NEXUS HAWK cellular/Wi-Fi/3G gateway
- REDCOM HDX and SLICE PBX/TDM gateways
- Riverbed Steelhead WAN optimization appliances and VMs
- VMWare ESXi 4.x and 5.x
- Vocality BASICS modules (router, replay, voice, fi ewire, and hybrid)
- Generic network devices, using industry standard protocols

Dashboard and Real-Time Data

IQ-Core Software captures and processes system information in real-time, and displays it in dashboard and detail views. PacStar can tailor the dashboards and views to meet your requirements.

Examples:

- Device up/down status
- Router and switch interface status
- Device internal temperatures
- Windows and application services up/ down status
- WAN/LAN bandwidth utilization and network performance
- Processor, memory, and disk utilization

Configuration Management

IQ-Core Software makes managing device configu ations easy.

- Backup one or more devices
- Restoration of one or more devices
- Configu ations are compressed into a single fil
- Download configu ations from remote locations
- Backups can be triggered "on change" daily and manually
- View and compare device configu ations

Unattended Monitoring/Alerting

IQ-Core Software consolidates events from devices (syslog SNMP and Cisco IP SLA), Windows event logs, and internally detected conditions.

- Real-time events displayed as they happen
- Events are stored, enabling troubleshooting of past problems
- Event forwarding to upstream syslog servers
- Alerts can be emailed to multiple recipients

Device Management

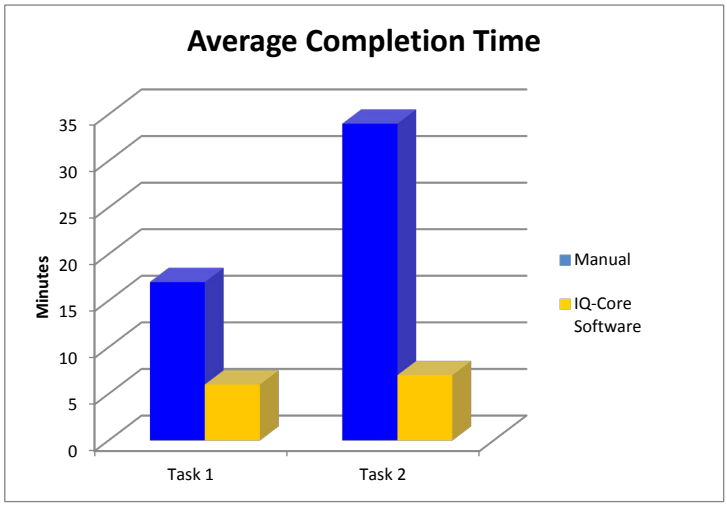
- Soft reset
- Easy password changing
- Fast console (SSH) access (true VT terminal, no manual login)
- Consolidated interface view (up/down, VLANs, IPs, etc.)
- Real-time bandwidth graphs, by interface
- Cisco IP SLA setup, graphing and alerting
- Virtual machine management
  - Resource monitoring (CPU, Memory, Disc, etc)
  - Power on/off guests and VMs
  - Smart VM shutdown on low battery power
- Take and restore snapshots, create and execute customized device command scripts
- One-click access to native user interfaces
- One-click access to frequently used device commands
- Ping directly from devices for troubleshooting purposes

User and Operator Provisioning

- Add and remove users from Active Directory/LDAP
- Auto-create Microsoft Exchange mailbox for user
  - Assign phone to user
  - Assign SIP properties to LSC user
  - Bulk import/export
  - Roles-based access to IQ-Core Software capabilities

Phone and Line Provisioning

- Add and remove analog, VoIP and SIP phones – and associate with switch ports
- Detailed display of phone and line information
- Associate phone numbers with user names
- Phone type, IP, MAC, and registration status
- MLPP configu ation
- Easy creation of auto-dial lines
- Cisco UCM search space and partition management
- View Cisco UCM route plan



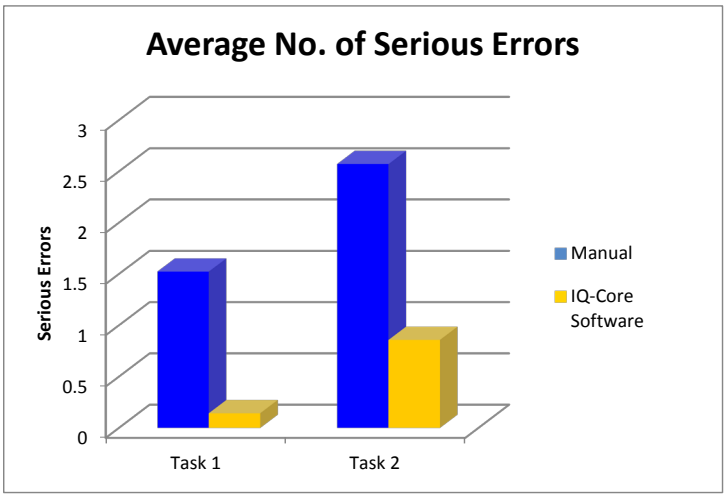


Fig. 7. and 8. End-user performance comparison on deployable communications system, with and without IQ-Core Software

Voice System Reporting

Call Detail Records

- Source phone number
- Destination phone number
- Source trunk when available
- Call start time and stop time
- Record searching/fil ering

Call Management Reports

- Call volume and top callers reports
- Call quality reports
- Trunk statistics
- Reports by phone

Diagnostics

- Real time bandwidth graphing/reporting IP SLA with reporting
- Extensive system logging, auditing, and system event capture
- Gather/package and export diagnostic sets
- Proxy ping wizard
- Custom troubleshooting device scripts

Utilities

- IQ-Core Software snapshot and profile
- Integrated file t ansfer server providing SCP, SFTP, TFTP services
- Integrated notepad
- Encrypted password vault
- Innovative "follow along" online help system

Efficient Use of Resources

- Client/Server, multiple clients allowed
- Client and Server run on any Microsoft Windows® OS
- 1 GB RAM (2 GB recommended)
- 1 GHz CPU (1.5 GHz recommended)
- 5 GB disk space (15 GB recommended)
- Client/Server communication protocol suitable for low-bandwidth connections

Fig. 9. IQ-Core Software dashboard with real time bandwidth display

ZERO ALPHA SOLUTIONS

Authorized distributor of PacStar products