N O R F A

BROADBAND COMMUNICATIONS SERVICE INFRASTRUCTURE

NORFA Platform Description

NORFA is a fully integrated communications service platform that offers over 10 different service groups and centralized web management via CRM and Admin web consoles for Telco equipment. The platform currently supports the following services: -
- IP Centrex/PBX,
- VoiceMail,
- Conference,
- Web Conference (data collaboration),
- Virtual Fax,
- Follow-me/Global Roaming,
- Call-Back,
- Calling Card,
- SMS/GSM services.

All services are fully integrated using an advanced, scaleable billing and call routing platform, complete with automatic provisioning system to intelligently run the subscriber and CPE (customer equipment device) management. NORFA is offered in a fully integrated package that can be immediately turned-on to start generating revenue from VoIP and PSTN service subscribers. The only responsibility for the provider is to provide a custom CRM web site presenting the services being offered.

NAT Traversal Support and Firewall Friendly Technology

NORFA supports NAT traversal and firewall friendly technology. The platform will utilize SIP protocol to communicate with client devices (CPE devices) and take advantage of the open SIP protocol for NAT traversal support. All subscribers will be able to make calls behind any type of router or firewall (excluding firewalls with port/protocol locking). For firewall with protocol locking, the system supports alternative protocol service ports to work even in networks that are non-VoIP-friendly.

Custom Subscriber Statements and Call History Management

NORFA includes fully integrated call history and statement management Web interface for subscribers. Norfa subscribers can receive monthly email statements in short or long statement formats. Using the Norfa CRM, subscribers can view a detailed call history log of their calls. The Admin management interface also provides complete subscriber history and management for subscriber invoices, statements, and call records. Providers can use the Custom Statement module to provide customization to their statements in direct of hosted service environments.

Scaleable and Powerful Broadband Telco Solution

NORFA is scaleable and powerful broadband Telco platform for telephony services over DSL, Cable and Wireless medium. The system has four generic components that support different services required for complete service deployment. The system is fully integrated and ready for immediate deployment that requires from 2 to 5 days for service installation and activation. The only component that the customer needs to develop is the Custom CRM web site (SysMaster can either develop or provide a template to the client). Below is a description of the NORFA structure and the required components to provide full broadband solution:

1. SM7000 Media Server - these servers handle all media needs such as application, IVR, and voice channel management.

2. VM2000 CRM, Billing, and Call Routing Server - these servers handle all CRM, Web Management, Subscriber Management, Subscriber Billing, Service Provisioning, and Call Routing aspects of the platform.

3. SM6000 Signal Control Sofswtich - this server handles all complex call routing and switching tasks primarily in SS7/C7 environment.

4. SM7000 QoS Server - Quality of Service server that prioritizes voice traffic over regular data for achieving high-quality voice communications and optimal bandwidth utilization.

### Ready for Immediate Deployment - 5-Day Service Installation and Activation Cycle

NORFA is the only broadband platform available for immediate deployment. It is fully integrated, tested, and proven to work in production environment. All services are fully supported and integrated for quick, off-the-shelf deployment. The providers that choose to implement the platform will only require developing their own Web CRM interface based on the templates provided by SysMaster for the Web CRM interface.

Fully Integrated CRM Interface for Service Management

NORFA includes complete CRM interface to allow subscribers to check their statements online, check their call history, manage their phone books globally, and setup their service features (via transparent media gateway API interface). The system will automatically provision voicemail boxes, IP Centrex extensions, conference rooms, and follow-me private numbers allowing for high performance and large throughput.

Integrated Infrastructure Layout

NORFA can be integrated in virtually every DSL, Cable, or other broadband infrastructure via standard interfaces. The system fully supports multiple VoIP protocols (SIP, H323, MGCP) with codec variations and multiple PSTN protocols (ISDN/PRI/E1/T1, CAS. MFC/R2, SS7 and GR-303). For an example of integration layout, please refer to Figure 2.
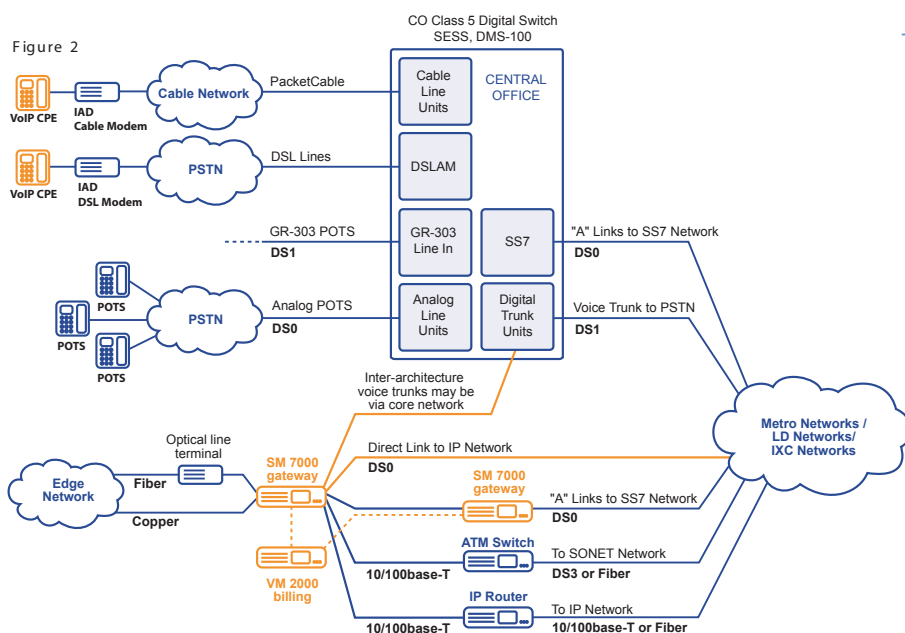
10 Advanced and Integrated Service Support

NORFA offers ten (10) advanced Telephony services that can be managed via Web of Phone IVR. The services include: IP Centrex/PBX, Voice Mail, Conference, Web Conference, Virtual Office, Follow-me, Calling Card, Call-Back, and SMS Messaging. For more information about the services, please refer to the NORFA Platform Brochure.

Automated Provisioning System for CPE Device Management

NORFA solution supports automated SOHO/ATA/Modem device provisioning using PacketCable/DOCSIS2.0 and DHCP infrastructure or TFTP SIP. Once installed, the end-user devices can be re-configured via DOCSIS or via Dynamic TFTP APS provisioning. The CPE devices are shipped without CallerID/DID assignment and once the subscriber that signed for the service registers the CPE device into the network, the device will auto provision itself by extracting custom configuration from the SysMaster VM2000 server.

Support for Post-Paid and Pre-Paid User Accounts

NORFA supports post-paid and pre-paid accounts for efficient billing to allow higher demographic group penetration. The system will dynamically disconnect all pre-paid accounts upon balance depletions and re-initialize service once the credit becomes sufficient. All Service Numbers associated with pre-paid accounts will be automatically disconnected and re-assigned.

Works for All Types of Broadband including DSL, Cable, Wireless

NORFA will work in ANY broadband environment where there is sufficient bandwidth to allow VoIP services. The system can utilize a QoS server, if necessary, to facilitate high throughput of voice data streams and prioritization for quality voice services. The system will automatically provision supported CPE devices and distribute CallerID/Service Numbers and Authentication PIN numbers. The CPE devices can reside anywhere in the customer's premises even behind local firewalls, cable modems, DSL routes and shared PC computers.

Figure 2

Fully Integrated Service and Call Billing System

NORFA includes a complete billing solution developed by SysMaster Corporation - the largest VoIP Billing provider with over 1,000 billing customers. The billing system provides event-based billing (per call), time-based billing (flat/percent charge per time period), service plan billing (flat fee per service per time period). The system also supports Call Plans for flat charge for allocated number of minutes per month in a standard or unused-time roll-over format.

Dynamic Call Routing with LCR, Port-Overflow, and Route Failover Options

NORFA real-time call routing engine supports SIP and H323 call routing with dynamic call disconnect, account authentication, and call-time authorization. All calls are pre-authorized for a certain time interval, based on subscriber credit and destination to allow dynamic support for pre-paid subscribers. The system supports least Cost Routing to find the cheaper termination provider, port-overflow to switch calls to alternative termination endpoints once a termination port circuit is maxed out, and route failover to allow route diverting when termination endpoints become unavailable. Due to the dynamic nature of VoIP routing, the system will provide the best possible ASR and termination services as well as isolate routes that are non-functional.

Automated Service Number and CallerID Distribution

NORFA allows automatic distribution of Universal Service Numbers (Public Numbers) and Internal Service Numbers (Private Numbers) thus allowing subscribers to provision external service interfaces or use the services in a VPN (internal) mode. All Public Service Numbers are auto distributed and can be assigned, reassigned, and released automatically upon subscriber request or particular accounting event (low credit balance for example). The subscribers can also switch Public Service Numbers between services that they have signed up for.