

Enhanced Telecommunications (VoIP)

Executive Summary for Broward Community College

NEC Unified Solutions, Inc. (NEC) is proud to present the following overview to Broward Community College for its consideration regarding strategic plans for a VoIP telephone system platform, Voice Processing Platform and midspan power with UPS. We've also included pricing for Automatic Call Distribution system and reporting, Speech Attendant, Unified Messaging, PoE switches to replace the midspan power. The NEC team has worked diligently to compile this information in sincere hopes of conveying our value and extending our relationship with Broward Community College.

NEC's 100+ years of experience in voice communications, data communications, and now converged communications platforms provides NEC with the confidence that our proposed strategy, pricing, and deliverables, will provide BCC with the mutual confidence required in a partnership of this magnitude. As such, we took careful consideration of all aspects of the project and the critical nature of your business when composing our response.

Central to our proposed solution is the NEAX2400 Internet Protocol eXchange (IPX) system. This system represents the epicenter of our proposed solution. The system is configured for **complete system redundancy in processor, power, and switching fabric.**

The NEAX2400 Internet Protocol eXchange (IPX), fuses existing NEC technologies with dynamic advancements in hardware and software to satisfy the most stringent system requirements. Private Networking, complete IP telephony support with Location Diversity are just a few examples of technologies supported. NEC's modular design, distributed processing, sensible migration, comprehensive network solutions, and the ability to customize functionality to match specific business applications are just a few of the NEC benchmarks that the IPX builds upon.

The NEAX2400 Internet Protocol eXchange (IPX) is an intelligent Digital Communications controller that offers all functions and services utilizing either TDM or IP protocols via the same Central Processing engine, and can provide various integrated information services required in today's environment.

The NEAX2400 IPX provides over **760 service features that enhance productivity, reduce operating costs, and improve communications efficiently.**

In support of the requested Voice Mail, Automated Attendant, and optional Unified Messaging requirements, NEC has responded by including the NEC NeaxMail AD-64 system. This integrated voice messaging system offers a powerful centralized message solution to meet the communications needs of the College. Now you can manage your communications over the telephone or from your personal computer (PC) using Groupwise or Microsoft® Outlook® Inbox. The NEAXMail AD-64 offers advanced unified messaging, voice mail and automated attendant functionality.

Running Windows 2003 the system is fully integrated to the NEAX 2400 and NEAX 2000 systems providing full Centralized Voice Messaging capabilities with Message Waiting to all phones at all campuses. In addition, the system can be connected to the current LAN infrastructure to provide full Unified Messaging functionality. The AD64 is compatible with Groupwise, Lotus and Exchange. And, if the initial deployment is with Groupwise there is no cost to change the integration to Exchange.

The ACD system provided as part of our response is NEC's CallCenterWorX-Enterprise. This sophisticated ACD system is designed to provide complete applications support and represents NEC's "flagship" Call center offering, enhancing the overall level of customer service and changing the way traditional businesses distribute high volumes of incoming calls. Designed specifically to compete in today's advanced call center environment, customers enjoy, **improved levels of service, greater productivity, maximized cost savings, and better customer relationships** are all a result of the technological advances NEC's CallCenterWorX-Enterprise solutions offers.

All the technology in the world is of no use if it can not be **managed easily**. To simplify overall systems management NEC has included the MA4000 Management Application. The MA4000 Manager is a Web-based product designed to manage and configure communications systems using a unified central methodology. The MA4000 application expands its ability to program and administer systems by using additional applications allowing an IT Administrator to integrate the NEC Enterprise Communications system into the corporate business environment. The MA4000 provides the following; Web Browser Operation, LDAP Auto Provisioning Service, Security, Alarm Notification, Centralized Authentication Service (NEC CAS), Alarm Client Notification, and System Health Monitoring, Traffic Management, and Authorization Code Management plus much more.

In summary, NEC has provided to Broward Community College a **cost effective, manageable, and user friendly** communications platform that will provide many years of service and ensure **investment protection**. We, at NEC Unified Solutions, Inc. value greatly the opportunity to continue our long term relationship with Broward Community College.

We welcome the opportunity to meet for you to fully understand the architecture and our migration plan. In addition, we can discuss in detail some of the options that you might find very beneficial

24.0 MIGRATION STRATEGY AND CONNECTON TO EXISTING NETWORK

24.01 Please indicate a suggested migration strategy for the College. This migration needs to address the following issues.

a. Installation sequence and time frames

Response: Assuming all contracts are finalized in march 2007, NEC is prepared to complete the installation tentatively schedule for June 2007. We've provided network diagrams showing the current campus configuration and the deployment for each each campus. To summarize, our plan is to upgrade Downtown first and integrate the system into the WAN to prepare for IP CCIS/Fusion. Voicemail and other applications will be deployed at this time at Downtown. We will continue to leave the point to point CCIS in place for connectivity to the other campuses and Octel voicemail. The second phase is to upgrade Weston, Miramar and Pines and install Tiger Tail. We will incorporate the IP CCIS for connectivity to Downtown. The next phase involves upgrading Central to IP with IP CCIS. We will leave the point to point CCIS in place for connectivity to North and South campuses. The last phase involves upgrading North and South to IP with IP CCIS. We can then eliminate all point to point T1 CCIS circuits and connectivity.

b. Connectivity requirements between the existing NEC and proposed equipment during a phased implementation

Response: The connectivity between the existing NEC 2400 and the upgrades will be the existing point to point T1s during the phased implementation. The upgrades and the connectivity will be seamless to all users. Dial plans will remain the same. Access to the Octel will remain. Once the new voicemail is installed all users should forward their extension to the new pilot number of the new voicemail. The Octel will remain for users to clean out their message box.

c. Migration to IP networking

Response: As each system is upgraded the IP networking will be enabled. See the response in a. Each upgrade will require two IP addresses. One is for the CPU and the other is the IPPAD card. Once the systems are on the network and IP CCIS/Fusion is enabled the communication will be via network connection.

d. Voice Mail Access

Response: See response to b. The Octel is installed at Central. The new voicemail will be installed at Downtown. Once the new voicemail is installed all users should forward their extensions to the new pilot number and start using this voicemail so it is all centralized and you can begin to take advantage of the new feature and functionality. There is a tutorial when the user logs on the first time to the system. We can discuss training in more detail. However, the Octel can remain on-line for users to clear out their message box. In addition, we highly recommend that users begin using the new voicemail, the Octel can remain on-line for as long as BCC chooses. This is not so much to use as the first choice voicemail platform but there is no rush to clean out the message box. The Octel can remain on-line for years or until it fails.

24.02 Installation Methodology

a. Installation Timeline Gantt Chart – Include the following:

1. A timeline and Gantt chart for each of the migration strategies outlined

Response: A preliminary timeline and Gantt chart is included in Tab 3

2. A recommendation for any alternative migration strategy you may propose

Response: As an alternative migration strategy we have proposed the NEC SV7000 IP platform. This small form factor replaces all four 2400s. Two SV7000s are included. One SV7000 will support Downtown and North and one SV7000 will support Central and South. We have chosen to keep the NEAX 2000IPS systems in the network. A major benefit to BCC with this alternative approach is the seamless connectivity we provide. Phase one will be to upgrade Downtown. We will provide CCIS gateways to provide CCIS connectivity with the other sites. Phase two will be to upgrade the 2000s and add Tiger Tail and enable IP CCIS. The next phase is upgrade Central and lastly North and South Campuses. CCIS connectivity will always be retained until the last campus is connected. The new voicemail will be installed at Downtown. The Octel will still be connected to Central. However in this scenario the Octel will be disabled when the Central campus is upgraded. The good news is that with an 8 port analog gateway the Octel can stay connected. You will lose any integration but users will still have access to delete messages from their inbox. Losing the integration should not be a concern as users should start using the new voicemail once it is installed.

3. A diagram of the network as it is phased and how it will look once completed

Response: A network diagram of the existing network and the phased approach is included in Tab 7.

25.0 PROPOSAL BENEFITS

25.01 Please include the top ten competitive advantages to your proposal

a. Leverage Investment – BCC has made a large investment over the years with NEC including upgrading to PRI, installing and upgrading the NEAX 2000s and implementing CCIS, replacing older cards and phones with current cards and Series 'E' phone. By upgrading the current 2400s to IPX and adding IP networking and IP stations, BCC can leverage the initial investment and investment over the years by reusing cards and phones where applicable. In addition, the ramp up time is minimal since the phone features are identical to what's used today, but with much added feature functionality.

b. NEC Unified Solutions, Inc is uniquely positioned and qualified to provide the services, skills, and creativity that we believe will be required to fulfill the requirements of the technologies outlined in this RFP. While methodology and technology are a major part of our solution and should be key components in making strategic decisions like these, it is also equally important that the company BCC chooses for this project has a solid reputation that is flexible, creative, and responsive. The delivery on this approach has been our heritage for many years.

NEC Unified Solutions, Inc offers a breadth of solutions that many of our esteemed competitors do not offer. With 100+ years of experience in voice communications, in 1999-2000 NEC became early adopters of IP technology. It's one thing to say you are IP certified. It's another to actually implement. Our success with IP deployments is directly related to our voice communications experience. We know what it takes to work with carriers. We understand T1/PRI technology. We've implemented voicemail systems, Call Center solutions and provided all sorts of customized end user training.

c. NEC Unified Solutions offers a full range of cyber infrastructure technologies including:

- Contact Handling, Presence Management, Mobility and Collaboration utilizing our OpenWorX Platform to allow you to stay connected anywhere, anytime. Never miss important calls again.
- Business Attendant and Business Receptionist provide efficient Call Processing on a desktop PC with fast call handling via a keyboard or mouse, point and click features, and allow attendants and administration assistants to improve call coverage.
- Unified Messaging can be optionally included in the NEAXMAIL AD64 to consolidate all messages in one place giving you power to access, manage, reply from virtually anywhere and with any device whether it's a PC, telephone or via the internet. In addition, fax messages can also be delivered to the same inbox. Plus, the system fully integrates with Groupwise and there is no charge to change the integration if Exchange is implemented in the future
- Seven, NEC's Speech Attendant improves communications by allowing Operators to be more productive. Speech Attendant can be used to answer all frontline and or internal calls and transfer the call to an extension, voicemail, mobile phone, local number.

d. NEC Unified Solutions will provide 24x7 remote and on-site support for all installed systems. Not only is this support for break fix repairs but also includes preventive maintenance. We also provide customer's access to NEC Customer Connection that is a Secure Web-based portal to create trouble tickets, track the status and/or resolution of trouble tickets quickly and efficiently. Tickets can be sorted and invoices reviewed. For additional support and security the 2400's will be equipped with a Remote Monitoring Unit (RMU) to provide around the clock monitoring. The RMU will contact the NEC Unified Customer Support center to report major and minor alarms. This Early Warning System will also monitor room temperature and battery problems. The Customer Support Center may assign the issue to the NEC Technical Assistance Center or dispatch a certified NEC employee to diagnose and repair the problem.

e. In addition to our traditional voice support, NEC can provide SNMP monitoring to provide a more comprehensive set of critical capabilities. NEC can monitor any SNMP enabled device, provide a rapid average meantime to notify of under 5 minutes and provide true root cause analysis and a real time portal with on-demand reporting. This 24x7x365 monitoring of the BCC network is via a secure connection by NEC professionally trained employees at the NEC Network Operations Center located in Dallas, Texas.

f. NEC Unified provides a full suite of Services for Campus Network Security including:

- Security Policy Development
- Security Awareness
- Vulnerability Assessment
- Penetration Testing
- Intrusion Detection and Prevention

Both network and host vulnerabilities are included with our Security Assessment with Comprehensive Analysis, Findings and Recommendations furnished with a complete report.

g. E911 for Emergency is highly critical in IP deployments. NEC's E911 solution supports VoIP mobility using SNMP Based IP location discovery by MAC address. Emergency Alert is fully integrated with the NEAX2400 and NEAX2000 along with the MA4000. In addition to IP phone location discovery Emergency Alert supports digital devices with a static location and manual entry in the 911/NENA application. Other features include Intrado Integration, In-Campus PSAP integration and NENA Database update.

h. The current voice platform that will be upgraded to support VoIP is fully featured with full CPU, Time Division switch and PIM Power Redundant. This redundancy provides high availability regardless of outages with the data network. PRIs, digital and analog phones will remain up. In the event of a network outage or failure you can guarantee that all systems will keep running. In addition, both the 2400 and 2000 will support analog, digital and IP in the same box. Lastly, all systems are completely survivable in the event of a total WAN outage. Voicemail may be lost but users can still communicate with their phones.

i. System maintenance is easy with the MA4000. The MA4000 provides centralized management for all locations for fast and easy Moves and Changes. The MA4000 allows for range programming and can schedule large programming jobs ahead of time to run after hours. The system includes 256 Bit Encryption out to the Web Client, 3 different methods of user authentication: LDAP, Active Directory, Encrypted SQL. The system also incorporates Single Point of Entry to voicemail and Call Accounting.

j. By upgrading the NEC platforms your Business Continuity is retained. You will continue to keep the Octel on-line before during and after the upgrades so no messages are lost in the transition to the new voicemail. Users will be able to retrieve old messages until the system is ready to come off-line. In addition, our strategy is to retain the point to point CCIS until each campus is cutover. Therefore connectivity will always remain during the complete phased cutover. As we upgrade each campus we will deploy the IP CCIS and connect it into the current WAN network.