SBC-002-316-077
Common Systems Standards for the SBC LOCAL EXCHANGE companies Internal M&P

Abstract

Presented in this document are the Common Systems Standards for equipment placement and interconnection in the SBC LOCAL EXCHANGE companies Network. Users of this document should note that requirements and information contained within may only be excerpts of full requirements necessary for an acceptable installation of network equipment in a SBC facility. Users must refer to reference document for detailed requirements. It is the intent of this document to highlight issues that must be considered during the product introduction phase. However, once the product is approved for deployment the product(s) are expected to be installed into SBC facilities in strict conformance to all published requirements.

Target Audience: The primary audience for this document is New Technology Introduction (NTI), SBC Laboratories and Network Planning & Engineering (NP&E) and other SBC personnel that review products for approval. This document will also be used in the PDF process associated with Requests for Information (RFI), Requests for Price (RFP) and Requests for Quote (RFQ) for equipment placed into the SBC LOCAL EXCHANGE companies Network.
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Issuing Dept: SBC Services, Network Planning & Engineering (Common Systems)
Documents Coordinator: Wing Eng – (925) 823-4616, E-Mail: we2583@camail.sbc.com

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(Other significant contributors may be found in the Contact Section of this document.)

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1. Reasons for Reissue

This section will provide future revision highlights.

2. Introduction

2.1 The Common Systems Standards

The SBC LOCAL EXCHANGE companies Network is designed around fundamental standards for the purposes of meeting interconnection, safety, and external corporate industry standards such as ANSI, space considerations, and compatible technologies. The Common Systems standards support this infrastructure from both an embedded basis, as well as a going-forward view of new technologies and deployments. New Network Elements & Equipment (NE) are required to integrate into the network seamlessly (fit, form and finish), without the impact or cost pressure to compensate for the product introduction. The primary audience for this document is the Originating Equipment Manufacturer of the overall Network Equipment offering to the SBC LOCAL EXCHANGE companies.

This document is intended to provide a “tripwire checklist” for features and functions that references the initial compliance and the need to be assimilated into the Network Equipment under consideration for standardization. This document and its accompanying checklist, SBC-TP-76450-001, *Common Systems Checklist*, Issue 1, dated April 2003. SBC LOCAL EXCHANGE companies New Technology Introduction (NTI), Product Delivery Process (PDP) and/or SBC Laboratories personnel (SBC-LABS) are expected to administer this review checklist. Once reviewed, if there are any negative or questionable compliance responses from the manufacturer, then the NTI/PDP/SBC-LABS group will refer the few critical checklist items to the appropriate Common Systems Subject Matter Expert (SME) organization for review. The checklist provides some of the key requirements, excerpts and information contained within the Common Systems Standards Documentation. PDP/NTI/SBC-LABS must refer to reference documents for detailed requirements. It is the intent of this Technical Publication document to only highlight issues that must be considered during the product introduction phase. The PDP/NTI/SBC-LABS individual is responsible for the process and will review and administer this document and worksheet. Network Planning & Engineering (NP&E) may use this document as a reference tool for access to the core standards documents.

Any negative responses or questionable responses that might need additional insight will require manufacturer documentation as follows:

- Manufacturer Technical Documentation on the product
- Manufacturer Equipment Drawings
- Manufacturer Simulation Testing (as deemed necessary by Common Systems)
- Manufacturer recommended solutions to the issue at hand
- Manufacturer interconnection recommendations

This information will be forwarded to SBC Common Systems Single Point of Contact for review. If the product meets the specification, the Common Systems SME will so advise the

PDP/NTI/SBC-LABS individual. If the product does not meet the standard, the PDP/NTI/SBC-LABS responsible person must follow the Exception & Evaluation Process if further consideration is warranted or desired along with the necessary documentation provided by the Manufacturer.

On an **exception basis**, SBC Services Inc, NP&E Common Systems may provide a Test & Review for the Facility Layer of a specific product at the request of an SBC LOCAL EXCHANGE companies. SBC-TP-76450-002 Product Exception & Evaluation Request Forms will go through the Single Point of Contact and be approved through concurrence of the Vice President-Finance & Engineering Support. Common Systems will require test data and equipment to be provided by the manufacturer. The Common Systems SME will provide a report detailing the findings and recommendations including modification recommendations. An Approval-for-Use Reference Number will only be provided for a product that meets all Common Systems Facility Layer functions.

This Technical Publication and subtending forms will be updated on an annual basis and will be placed on an external Web Site for Manufacturer access:
https://sw11.pacbell.com/common-sys/

2.2 Integration of this document into the PDP & Footprint Processes

This document along with SBC-TP-76200, NEBS (also known as SBC-TP76200MP) shall be integrated into the SBC LOCAL EXCHANGE companies Product Delivery Process (PDP) and the Footprint Process in the Phase 1 portion of the process. The purpose of Phase 1 is to define the product, conduct technical, regulatory and legal assessments, gain product/segment support and determine its fit into the business strategy.

More specifically, the introduction of SBC-TP-76450 and SBC-TP-76200 shall be introduced into the PDP process in Phase 1, Section 1.2,*and Obtain Assessments*. In this timeline, the Product Design Manager will form a technical assessment to perform a Technical Analysis of the Product. This document shall be used to insure compliance with the Interconnection standards for the SBC LOCAL EXCHANGE companies.

Subsequently, any RFI, RFQ, RFP issued for product selection needs to incorporate the Common Systems Infrastructure Standards highlighted in this document coupled with SBC-TP-76200 (NEBS). Network Elements considered for standardization need to comply with these standards, or have a Common Systems Exception & Evaluation Request approved in advance. This document can be found as SBC-TP-76450-002 on the external web site: https://sw11.pacbell.com/common-sys/

2.3 Use of this Family of Documents

2.3.1 Internal Users

The Product Design Manager (PDP/NTI/SBC-LABS or equivalent) will use this process throughout the PDP and Footprint Processes to insure that potential Product Ideation concepts developed by product suppliers/ manufacturers build Common Systems Standards into their prospective product. The PDM/NTI/SBC-LABS will provide up-front information concerning the infrastructure necessary for further consideration into the PDP process. Manufacturers will be able to know in advance the customer-desired characteristics for "fit, form and finish". Using this document family internally, the PDM can develop the proper technical assessment to not only perform a Quick Technical Analysis (QTA), but to develop the Product Specification Document (PSD), the Request for Quote (RFQ) and subsequently the Technical Service Description (TSD) without costly surprises and work arounds.

2.3.2 External Users

Manufacturers and Product Supplier of Network Equipment to be deployed within the SBC LOCAL EXCHANGE companies may provided the checklist which is found in SBC-TP-76450-001 on the external web site: https://sw11.pacbell.com/common-sys/ for compliance checklist references. Further information needed in support of the checklist item must be investigated by the SBC Product Design Manager (PDP/NTI/SBC-LABS) since the supporting documentation in many cases can only be accessed internally. The PDP/NTI/SBC-LABS may share the salient information to the Manufacturer/ Product Supplier on what will be necessary to adapt their product to become compliant with the Common Systems Standards.

3. Checklist Interconnection Standards

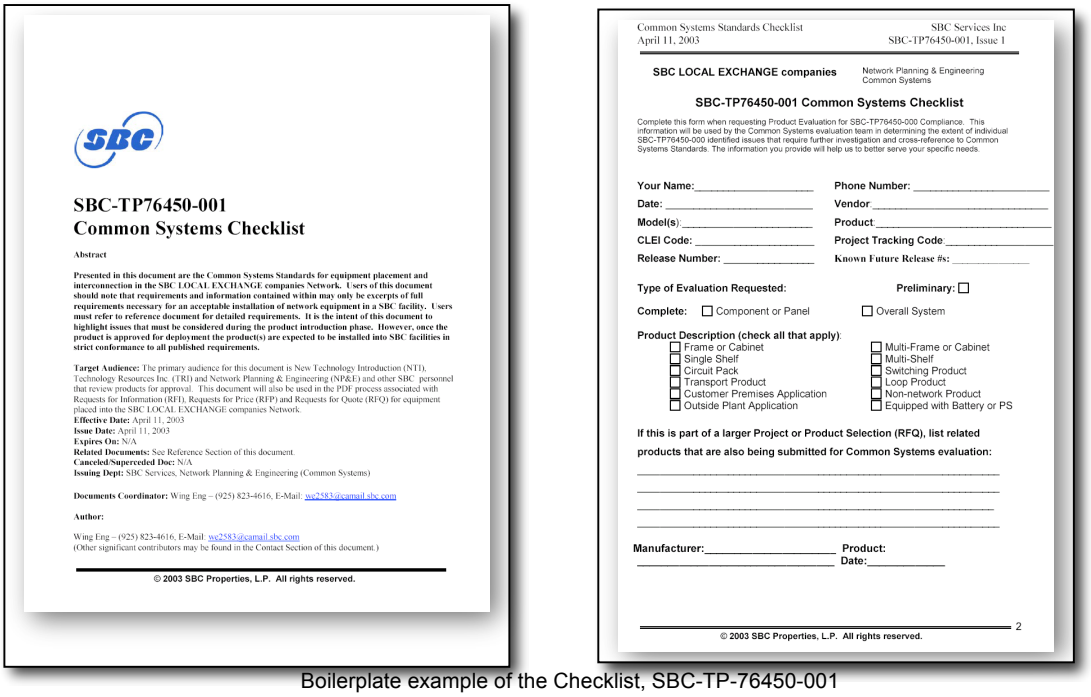
3.1 Use of the Common Systems Checklist

SBC-TP-76450-001, *Common Systems Checklist*, Issue 1, dated April 2003 provides some of the key requirements, excerpts and information contained within the Common Systems Standards Documentation. Users must refer to reference document for detailed requirements. It is the intent of this document to highlight issues that must be considered during the product introduction phase. However, once the product(s) is/are approved for deployment the product(s) are expected to be installed into SBC LOCAL EXCHANGE companies facilities in strict conformance to all published requirements.

Important Note

This document family (SBC-TP450-000) along with all the Technical Publications (SBC-TP76200-000, SBC-TP76300-000, SBC-TP76400-000, etc) are designed to provide technical materials for the resolution and identification of source standards. It must be emphasized here that all of these technical publication documents are **signposts** or **trip wires** for the standards. The core reference materials and standards that the Technical Publications are based are BSP, M&P and Technical documents provided from standards bodies such as SBC LOCAL EXCHANGE companies, Telcordia Technologies and ANSI. Final answers to questions reside with these documents and the Common Systems Subject Matter Experts that support them.

3.2 Interconnection Common Systems Standards



SBC-TP76450-001
Common Systems Checklist

Abstract

Presented in this document are the Common Systems Standards for equipment placement and interconnection in the SBC LOCAL EXCHANGE companies Network. Users of this document should note that requirements and information contained within may only be excerpts of full requirements necessary for an acceptable installation of network equipment in a SBC facility. Users must refer to reference document for detailed requirements. It is the intent of this document to highlight issues that must be considered during the product introduction phase. However, once the product is approved for deployment the product(s) are expected to be installed into SBC facilities in strict conformance to all published requirements.

Target Audience: The primary audience for this document is New Technology Introduction (NTI), Technology Resources Inc. (TRI) and Network Planning & Engineering (NP&E) and other SBC personnel that review products for approval. This document will also be used in the PDF process associated with Requests for Information (RFI), Requests for Price (RFP) and Requests for Quote (RFQ) for equipment placed into the SBC LOCAL EXCHANGE companies Network.
Effective Date: April 11, 2003
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Common Systems Standards Checklist
April 11, 2003
SBC Services Inc
SBC-TP76450-001, Issue 1

SBC LOCAL EXCHANGE companies
Network Planning & Engineering
Common Systems

SBC-TP76450-001 Common Systems Checklist

Complete this form when requesting Product Evaluation for SBC-TP76450-000 Compliance. This information will be used by the Common Systems evaluation team in determining the extent of individual SBC-TP76450-000 identified issues that require further investigation and cross-reference to Common Systems Standards. The information you provide will help us to better serve your specific needs.

Your Name:_____ Phone Number: _____
Date: _____ Vendor:_____
Model(s):_____ Product:_____
CLEI Code: _____ Project Tracking Code:_____
Release Number: _____ Known Future Release #s: _____

Type of Evaluation Requested: Preliminary: ☐
Complete: ☐ Component or Panel ☐ Overall System

Product Description (check all that apply):
☐ Frame or Cabinet
☐ Single Shelf
☐ Circuit Pack
☐ Transport Product
☐ Customer Premises Application
☐ Outside Plant Application
☐ Multi-Frame or Cabinet
☐ Multi-Shelf
☐ Switching Product
☐ Loop Product
☐ Non-network Product
☐ Equipped with Battery or PS

If this is part of a larger Project or Product Selection (RFQ), list related products that are also being submitted for Common Systems evaluation:

_____
_____
_____
_____

Manufacturer:_____ Product:
_____ Date:_____

2

Boilerplate example of the Checklist, SBC-TP-76450-001

3.3 Checklist Form Preparation

- Provide Contact Information from the Manufacturer.
- Provide the specific nomenclature of the product to be reviewed.
- Define whether the product is a component or an overall system.
- Check the Product Description under all boxes that apply.
- List the related products associated with the Project in the free form field.
- Check on each item whether the product component does or does not meet statements in the checklist,
- Provide details of any negative response.
- Provide a narrative from either the Manufacturer and/or PDP/NTI/SBC-LABS regarding the issue, add additional documentation as needed.
- Provide additional Manufacturer documentation to aid in the decision:

Manufacturer Technical Documentation on the product

Manufacturer Equipment Drawings

Manufacturer Simulation Testing (as deemed necessary by Common Systems)

Manufacturer recommended solutions to the issue at hand

Manufacturer interconnection recommendations

The PDP/NTI/SBC-LABS representative from the SBC LOCAL EXCHANGE companies will forward all the salient and completed documentation to the NP&E Common Systems Technical Staff for review and subsequent decision. The goal is to have a final decision provided within 8-work days of receipt by NP&E Common Systems based upon the materials submitted. A conclusion narrative and Approval/Disapproval will be rendered within this timeframe.

4. Specific Engineering Considerations

4.1 DC Power Interconnection Standards

4.1.1 DC Architecture

Nominal –48v DC is always the first choice for power delivery to any Network Element (NE). Generally, manufacturers can comply to this requirement by providing their equipment internally with various inverters and converters to meet this condition. However, within the network power architecture, various other voltages may be available in limited supply, but must validated on a case-by-case basis for NE deployment considerations. The design criterion of the DC power is based on a normal operating voltage of approximately 50v to 56v DC, with nominal rating of 48v and low voltages of 42.62v DC measured at the termination point of the network element.

To integrate into the embedded DC distribution architecture, the optimal List 2 DC drain per load should not exceed 48 amps. However, new style BDFB's can accommodate 56 amps per load. Technology Engineers should validate the availability of DC ampacity if the product requirements will exceed 48 amps DC (at List 2). DC architecture with larger requirements is available, but additional construction and other considerations by the Power COE are required.

4.1.2 Power Terminations at the Network Element

This section describes the various acceptable DC power connectors and connections that are approved for use within SBC. Manufacturer equipment should meet these limitations, as they are also part of the SBC-TP-76200 NEBS document. Connectors used to attach the product to external power cabling shall conform to the following requirements:

(a) For applications where the size of wire supplying or distributing power to/from the equipment is 16 AWG stranded power cable or larger, connectors shall be crimp-type. Power input terminations that will accept # 8 AWG connector terminations shall meet the same specifications, but shall also be a dual threaded post termination able to accept the appropriate two-hole crimp connection. This termination may be either 5/8" or ½ "on

centers. Equipment surface terminations shall accept crimp connections that meet the following specifications:

- UL486A Wire Connectors and Soldering Lugs for Use with Copper
- UL467 Grounding and Bonding Equipment
  Conductors
- UL 486C Splicing Wire Connectors
- SAE-AS25036 (Insulated Copper Ring Crimped Terminal - Dimensions)
- SAE-AS7928 (Copper Ring Crimped Terminal - Specifications)
- Equipment submitted for approval should provide a UL listed (power) termination strip designed and designated as “field wireable” to insure product compliance with the UL listing of the product. This termination strip should be able to accommodate a ring lug connectors that comply with the UL, CSA and Mil Spec listings.

(b) For applications where the size of wire supplying power to the equipment is 18 AWG power cable or smaller, mechanical connectors may be used. Mechanical connectors shall meet the following specifications:

- The connectors shall be listed by a Nationally Recognized Test Laboratory for its intended use.
- The connector shall be tested to assure long-term tightness and reliability. The following tests are acceptable for this requirement; IEC 60068-2-6, "Basic Environmental Test Procedures, Part 2: Test Fc and Guidance: Vibration (sinusoidal); EIA Specifications 364-27B (Mechanical Shock Test Procedure for Electrical Connectors) and 364-28D (Vibration Test Procedure for Electrical Connectors and Sockets). Other vibration test procedures demonstrating long-term reliability will be considered for evaluation.
- The product supplier shall provide documentation of routine maintenance (if any) associated with the supplied connector.

Redundant power feeders are required for all equipment serving network elements. The term network element refers to all switching, transport, data and operator services equipment, and any adjuncts for those elements. Redundant power feeder information must be provided in the supplier's response documentation to be in compliance with this item.

Each redundant power feeder shall have its own battery return conductor. This design concept shall also carry through directly to each piece of equipment. For equipment with a portion of battery return current flowing to the equipment frame, the current path between the battery return and the equipment frame shall be rated at least 140% of L1 current drain (refer to Table 310.16 at 90^0C of NEC). Battery return and current path information must be provided in the supplier's response documentation to be in compliance with this item.

The NE equipment shall provide visual power alarm and status indications by indicator devices mounted directly on the equipment. The equipment shall also be capable of transmitting alarm signals to an office alarm circuit and to sending circuits for remote surveillance using dry loop relay contacts or other means. Power alarm and status reporting information must be provided in the supplier's response documentation to be in compliance with this item. Equipment incorporating the use of power distribution apparatus which uses capacitors shall be fused to protect the power distribution bus from a shorted capacitor. Fuse and protection information must be provided in the supplier's response documentation to be in compliance with this item.

Power terminations found on network elements should terminate at the rear of the panel. Any exceptions to this will be dealt with on a case by case basis.

4.1.3 Power Distribution Delivery

Most network elements require some level of power terminating panel to distribute power though out the components found in the network device. The SBC Power Technical Staff has a host of approved PDU's that should meet most needs. In some occasions, manufacturers have embedded unique features into a self-provided PDU. Those PDU's may have to be used in limited conditions. Overall, the use of the approved panels should always be the first choice for power distribution of transport and data needs. Any consideration beyond these choices should include the Common Systems Power Technical Staff. Switching type power loads are typically integrated in the switch frames. This arrangement is still acceptable as a first choice solution.

Units independent of the network element but included as part of the total package.
All products must meet the requirements listed in section 1 and 2.

The PDU's must be approved for use, and should be identified by an associated SBC PID (Product ID) number assigned by the SBC Power Technical Staff.

All approved power distribution units may be equipped with at least one of these forms of overprotection devices, (1) GMT Fuses, (2) Telpower® Fuses, (3) DC Rated Circuit Breakers. The recommended form of DC power distribution is GMT fuses, Telpower® fuses or Circuit Breakers, in that order. The size of the DC requirement will serve as the primary qualifier, but fuses are the preferred method of over-current protection. All fuses and circuit breakers should meet Quality Level III as defined by Telcordia TR-TSY-000332.

GMT Fuses – Generally sized to accommodate 0.18 - 15[1] amp requirements. List 2 demand should not exceed 12.5 amps to use this product.

Telpower® Fuses – Exclusively produced by Cooper-Bussman, these fuses are available in sizes from 3 amps to 600 amps, packaged in Blue to signify DC only. Telpower® fuses are also available in various styles for different needs. Some of the styles commonly seen are TPA, TPL, TPS and TPH. Telpower® fuses should be sized at 80% of their faceplate rating as well.

Circuit Breakers - Only thermal magnetic and magnetic type DC circuit breakers are acceptable. Further, SBC does not recommend DC circuit breakers greater than 224 amps. Circuit breakers should adhere to all applicable UL and ANSI standards. Circuit breakers are full load rate and may be of the same capacity as the List 2 drain.

Due to the circuit protection strategy deployment found in SBC LOCAL EXCHANGE companies, the use of circuit breakers placed in the power architecture should be avoided when a fuse provides the next step of protection (generally found at the BDFB). It is recommended that circuit breakers be protected by circuit breakers, fuses with fuses or fuses protected by circuit breakers. The use of circuit breakers placed in the embedded power distribution units found in

[1] SBC LOCAL EXCHANGE companies has approved one GMT fuse panel that is designed to accept 20 amp GMT fuses, if chosen, the List 2 demand should not exceed 16 amps.

network elements should be avoided. The preferred method of circuit protection at this level is fuses.

Network Element provider supplying individually mounted PDU

Even though not recommended as a choice by SBC, some Network Element designed by various manufacturers require specific PDU's that include unique characteristics needed to serve their specific network device. These "special PDU's" must meet all the same design criteria identified in this document as well as the SBC-TP-76200 NEBS publication. If accepted, this "special PDU" would be listed in the Network Element approval, purely as an integral part of the package and its approval is exclusive to the associated network element. Furthermore, this "special PDU" should be reviewed by the Common Systems Technical Staff to insure its integrity.

Integrated power distribution found within the housing of the network element

Defined as; power distribution that is integrated within the framework of the network element (e.g. #5 ESS PDF frame). Generally speaking, NE's requiring more that 200 amps of DC power include this type power distribution. Commonly found in large multiple interrelated-bays.

These type devices are considered equipment specific and should meet the requirements as listed in item 1 and 2 of this document as well as the SBC-TP-76200 NEBS publication. Additionally, SBC recommends the use of fuses in lieu of breakers in these applications.

4.2 Adherence to SBC Standard Suppliers

Within the Common Systems Checklist, standard corporate providers of the product are listed as applicable. Selections of this product are performed through SBC Services Inc. NP&E on behalf of the entire SBC Enterprise. Each approved provider shall be used using SBC LOCAL EXCHANGE companies approved PIDs, distributors and pricing. Unique requests or exceptions may be requested by following SBC-TP-76450-002, *Common Systems Exception & Evaluation Request*.

4.3 Synchronization/Timing Standards

Building Integrated Timing Supply (BITS) concepts is the SBC LOCAL EXCHANGE companies method of providing intraoffice synchronization. The BITS plan calls for each office to have one master clock called the BITS. Under the BITS concept, every timing capable Network Element (NE) in the office should derive its timing from that single source within the office. A timing capable Network Element is defined as any digital equipment that is able to conform to the BITS concept by accepting timing from an external source. A Network Element is still timing capable even if it is not currently configured or equipped to accept external timing, as long as the option exists to allow it to be so equipped.

All critical network element timing leads shall terminate only on the office master BITS shelf or one of its three expansion shelves. All composite clock output leads to CCS7 and remote BITS equipment shall be cabled through flexible Interduct and have diverse routing. All sync jacks shall be equipped with appropriate markers indicating SYNC. These markers should include the modified DSX jack, the originating facility jack and terminating network element jack.

Each SONET terminal/ADM shall be individually timed from the office BITS, with primary and secondary DS1 reference from adjacent T1 (DS1) output cards, with odd-even slot assignments. In the event of T1 (DS1) output card exhaustion, daisy-chaining to enable cascading of

synchronization to all terminals within a bay framework is not a SBC LOCAL EXCHANGE companies standard and shall not be permitted. Arrangements must be made to install additional BITS outputs

4.4 Alarm Standards

Local and Telemetry Alarms:

- All equipment (Network Elements - NE) deployed in a Central Office must have the capability of providing both local and telemetry alarm outputs for failed and thresholded activities.

- Local alarms must be separate alarm outputs from the telemetry alarms. At a minimum this would be a Major (MJ) and Minor (MN), both audible and visual. The visual alarm output must be designed so it cannot be disabled with an alarm cut-off (ACO).

Telemetry Alarm Protocols:

TL1 / TCP-IP	Most Preferred
TL1 (sync) X.25	Second Most Preferred
TL1 (async)	Third Most Preferred
E2A Serial (TBOS)	Fourth Most Preferred
E2A Discrete	Least Preferred

Alarm Interconnection:

- The interface for TL1 interconnection may be Ethernet RJ45, DB25 or RS422/449 (37 Pin).
- The interface for E2A Serial or Discrete interconnections may be wire-wrap pins or other non-proprietary connector.
- Each NE in a bay shall produce its own unique set of alarm outputs. Pre-designed "multipling" or "bussing" of alarms within a bay is at the discretion of SBC and shall not be mandated by the equipment design.

Discrete Alarm Conditions:

- All discrete alarm outputs shall be rated up to 1 Amp @ -48VDC.
- All discrete alarm outputs shall be normally open. At the discretion of the equipment manufacturer the use of Form-C relays to provide the option of Normally Open or Normally Closed alarm outputs is acceptable.
- All discrete alarm outputs shall be paired leads (tip and ring) with no common or shared return leads.
- All discrete alarm outputs shall be dry contacts with no electrical voltage present in a normal or failed state.

References:

- BSP 801-601-900MP SBC Alarm Standards Technical Manual
  (to be replaced by SBC-TP-76440 series)
  - http://ebiz.sbc.com/alarms
- Telcordia GR-833-CORE (NE and Transport Surveillance Messages)

4.5 Pre-assembled verses Field Assembled Network Equipment

Network Equipment layouts provided as the overall solution need to be reviewed in one of two ways regarding the applicability of Common Systems components and products. SBC LOCAL EXCHANGE companies are not in the Originating Equipment Manufacturer business (OEM) and as such will only be concerned with the connectivity and interconnection issues between the OEM equipment and the telco facilities for Common Systems evaluations. OEM requirements internal to the Network Equipment hardware are not reviewed under this documentation.

OEM connectors and external contact points will meet the Common Systems Standards for performance, reliability and suitability. The use of a "Plug & Play" system using internal self contained Network Elements must meet the NEBS standards but will only come into evaluation on the interconnection connectivity issues.

If the product uses various component that are interconnected together, this set of documents will be applicable for interconnection between the various external components and cabling in addition to stand-alone Common Systems components that may have been standardized with other products within the SBC LOCAL EXCHANGE companies. If the OEM has presented a solution that uses "off the shelf" separate components that are externally cabled within the bay or relay rack, validation and use of the SBC LOCAL EXCHANGE companies standard product lines shall be given.

Example: All DSX-1, DSX-3 and FDF panels will be provided by ADC Telecommunications Inc. for the SBC LOCAL EXCHANGE companies.

Finally, determinations will need to be made with SBC LOCAL EXCHANGE companies technical staff as to the items provided within the product meet either pre-assembled requirements or will be field assembled. Pre-assembled products will be considered within any Network Equipment/Element hardware box or panel that includes intelligent hardware or software. The assembly of multiple pre-assembled Network Equipment/Element products within the same footprint will be negotiated with the SBC LOCAL EXCHANGE companies. The assembly of multiple pre-assembled Network Equipment/Element products outside of the same footprint will be handled as a field assembled installation. Any Network Equipment/Element that uses a passive product panel or box that does not include intelligent hardware or software will meet SBC LOCAL EXCHANGE companies product approval standards and will be field assembled.

4.6 OSMINE and TIRKS Coding

Product introduced into the SBC LOCAL EXCHANGE companies need to be Operations Systems Modifications for Integration of Network Elements (OSMINE) compliant with Telcordia Technologies document BR 751-100-790, Issue 6, Nov 1992. Each manufacturer shall file documentation with Telcordia Technologies and meet COMMON LANGUAGE HECIG, CLEI, Function Coding, Frame Coding and Cross-Connect Point Coding (This requirement refers to adding FRAME DATA (Bay, Panel/Block/Tray, Row, and Port) at the facility layer of the OSI layer. The distribution frame itself is not inventoried in TIRKS but the Network Equipment and cable assignments that terminate to the FDF are loaded. The Frame data appears on the inventoried equipment (Network Equipment such as Add-Drop Multiplexers) that indicates where the equipment is cabled. The seven layers of the OSI model are unique and operate somewhat

independently although they are dependent. The Common Systems portion of the OSI Model pertains to Layer 1, Physical Layer.

OSI Model

Layer 7 - Application
Layer 6 - Presentation
Layer 5 - Session
Layer 4 - Transport
Layer 3 - Network
Layer 2 – Data Link
Layer 1 - Physical

All Network Element and Equipment (NE) including sub-components, except for stand-alone minor materials not assimilated with the NE footprint, will need to obtain OSMINE and TIRKS assignments. In addition, an OSIA (Operational Support Impact Analysis) needs to be done by Telcordia to define how the product would be administered in the TIRKS system. This analysis would define the inventory methodology best suited to administer the device in the TIRKS inventory as well as address the service level design requirements.

4.7 Footprint Layout

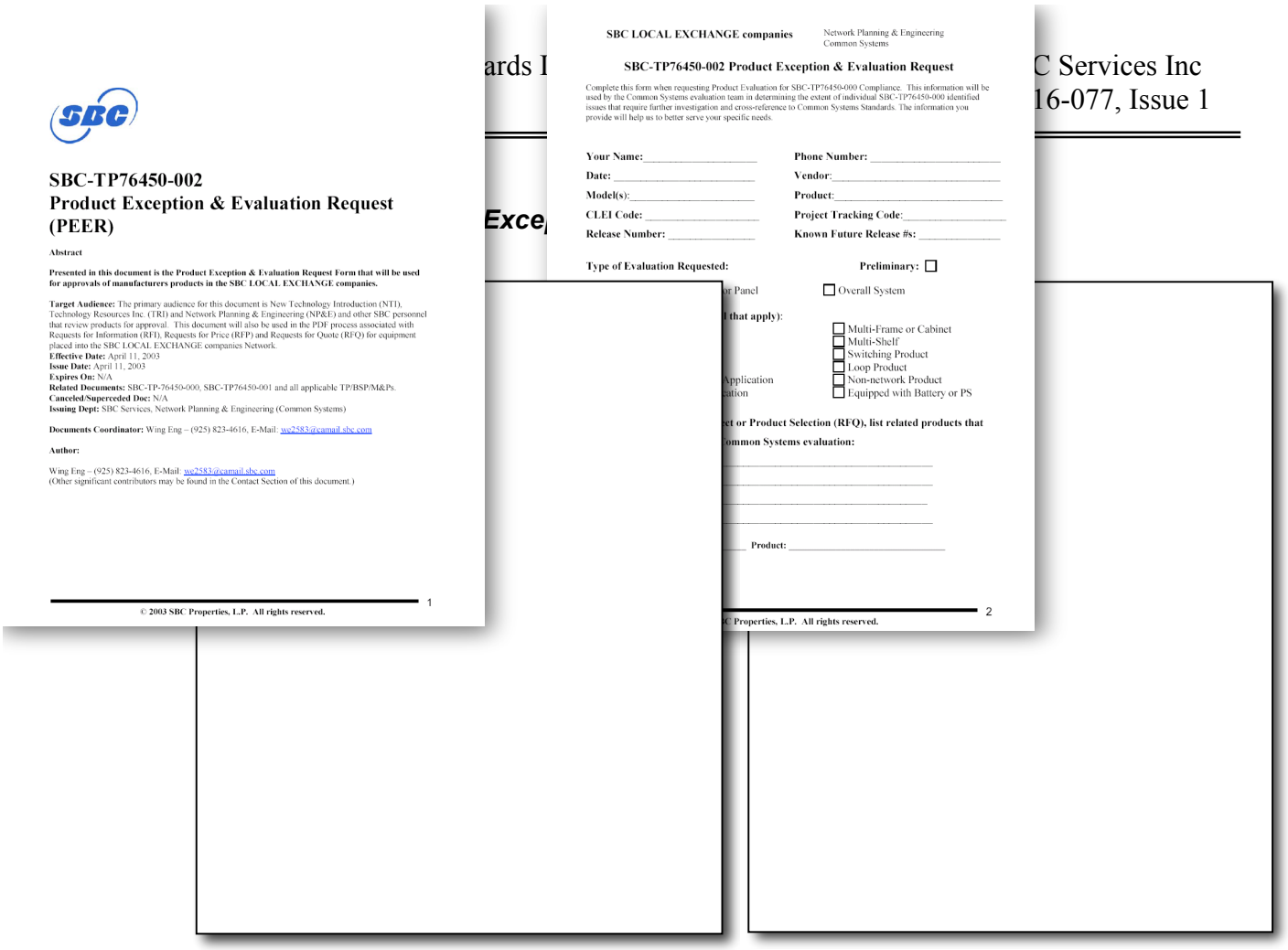
Network Equipment and Elements (NE) will need to fit within United States standards for relay racks/cabinets that provide for the mounting of said equipment. The NE will need to fit within the maximum spacing of 23-inches in width, 24-inches in depth and up to 84-inches (including the relay rack) vertically.

5. Exception & Evaluation Request Process

5.1 Use of the Common Systems Exception & Evaluation Forms

SBC-TP-76450-002, *Common Exception & Evaluation Request*, Issue 1, dated April 2003 provides information necessary to request an Exception review by Common Systems Network Planning & Engineering staff. This request will be properly completed with the addition of all necessary supporting documentation, drawings and pictures for a review to be performed. Once the product(s) is/are approved for deployment the product(s) are expected to be installed into SBC LOCAL EXCHANGE companies facilities in strict conformance to all published requirements.

If the product does not meet the standards even with the Exception review, the manufacturer may submit updates through the same process reflecting modifications at a later time for further consideration.



SBC-TP76450-002
Product Exception & Evaluation Request
(PEER)

Abstract

Presented in this document is the Product Exception & Evaluation Request Form that will be used for approvals of manufacturers products in the SBC LOCAL EXCHANGE companies.

Target Audience: The primary audience for this document is New Technology Introduction (NTI), Technology Resources Inc. (TRI) and Network Planning & Engineering (NP&E) and other SBC personnel that review products for approval. This document will also be used in the PDF process associated with Requests for Information (RFI), Requests for Price (RFP) and Requests for Quote (RFQ) for equipment placed into the SBC LOCAL EXCHANGE companies Network.
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(Other significant contributors may be found in the Contact Section of this document.)

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SBC LOCAL EXCHANGE companies Network Planning & Engineering Common Systems

SBC-TP76450-002 Product Exception & Evaluation Request

Complete this form when requesting Product Evaluation for SBC-TP76450-000 Compliance. This information will be used by the Common Systems evaluation team in determining the extent of individual SBC-TP76450-000 identified issues that require further investigation and cross-reference to Common Systems Standards. The information you provide will help us to better serve your specific needs.

Your Name:_____ Phone Number: _____
Date: _____ Vendor:_____
Model(s):_____ Product:_____
CLEI Code: _____ Project Tracking Code:_____
Release Number: _____ Known Future Release #s: _____

Type of Evaluation Requested: Preliminary: ☐

or Panel ☐ Overall System

l that apply):

☐ Multi-Frame or Cabinet
☐ Multi-Shelf
☐ Switching Product
☐ Loop Product
Application ☐ Non-network Product
cation ☐ Equipped with Battery or PS

ct or Product Selection (RFQ), list related products that
ommon Systems evaluation:

_____
_____
_____
_____

_____ Product: _____

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Boilerplate example of the Exception & Evaluation Forms, SBC-TP-76450-002

5.3 Exception & Evaluation Form Preparation

- Provide Contact Information from the Manufacturer.
- Provide the specific nomenclature of the product to be reviewed.
- Define whether the product is a component or an overall system.
- Check the Product Description under all boxes that apply.
- List the related products associated with the Project in the free form field.
- List each sub-component of the system under evaluation to the board level.
- Provide a narrative from either the Manufacturer and/or PDP/NTI/SBC-LABS regarding the issue, add additional documentation as needed.
- Provide additional Manufacturer documentation to aid in the decision:

Manufacturer Technical Documentation on the product

Manufacturer Equipment Drawings

Manufacturer Simulation Testing (as deemed necessary by Common Systems)

Manufacturer recommended solutions to the issue at hand

Manufacturer interconnection recommendations

The PDP/NTI/SBC-LABS representative from the SBC LOCAL EXCHANGE companies will forward all the salient and completed documentation to the NP&E Common Systems Technical Staff for review and subsequent decision. The goal is to have a final decision provided within 8-work days of receipt by NP&E Common Systems based upon the materials submitted. A conclusion narrative and Approval/Disapproval will be rendered within this timeframe.

5.4 Common Systems Single Point of Contact Activities

5.4.1 Receipt Activities

The PDP/NTI/SBC-LABS personnel will forward SBC-TP-76450-002*, Product Exception & Evaluation Request*, along with all salient manufacturer documentation covering the issues presented. It should be noted that this process is on an exception basis only; only those checklists that have a deficiency that require the completion of the above listed form need be submitted.

The Common Systems Single Point of Contact will log the request and enter a request number on the form. She will review the document and forward the documentation to the appropriate Subject Matter Expert(s) for review.

5.4.2 Internal Coordination

Upon receipt, the Common Systems SMEs will review the materials and the request. A decision will be rendered and entered on the document request and forwarded back to the Single Point of Contact. At that time, the request and disposition will be logged and subsequently forwarded back to the originator of the request.

5.4.3 Common Systems Contact

Refer requests for review to Sheree Stewart, Manager-Chief of Staff, will be the Single Point of Contact for these requests and coordination. She may be reached on (925) 327-2573, E-Mail: ss2892@camail.sbc.com.

1. The PDP/NTI/TRI Manager seeks concurrence from their GM or Director.
2. If the GM or Director concurs, they seek concurrence from their VP.
3. If the VP concurs, they contact the Vice President-Finance & Engineering Support and request an evaluation of the requirement waiver.
4. If the VP-Finance & Engr Support agrees to review the waiver, he requests a Risk Statement from the Common Systems SME on the risks/costs to the Network Infrastructure if the equipment is deployed.
5. A decision is reached between the VP-Finance & Engr Support and the NTI/PDP/TRI's VP on what the best course of action is for the needs of the business.
6. If the requirement is waived, Common Systems writes a letter to the business unit stating the reason for the waiver and the path forward. Both VP's sign the letter.
7. Common Systems issues a letter of approval based on the letter of waiver.
8. **If the equipment is not approved, the product will not be deployed in that arrangement.**

5.5 What happens if the product continues to fail the standards?

If the PDP/NTI/SBC LABS Manager concludes that the needs of the business may require a waiver of the Common Systems Standards requirements, they may follow the process below:

(note: the Common Systems Technical SMEs do not issue waivers of requirements):

6. References

For further information or electronic copies of this document and related information, visit the internal SBC LOCAL EXCHANGE companies Web site: **http://ebiz.sbc.com/commonsystems** and/or **http://apex.sbc.com**.

The external web site is: https://sw11.pacbell.com/common-sys/

External Documents are shown below:

Document Number	Document Description	Issue
SBC-TP-76200	Network Equipment – Building Systems	Jan 2003
SBC-TP-76300	Installation Guide within the Central Office	Jan 2003
SBC-TP-76305	Cable Installation & Removal	Mar 2003
SBC-TP-76305-001	SNFA Cable Installation & Removal	Feb 2003
SBC-TP-76305-002	48V DC Power Single Line Diagrams	Apr 2003
SBC-TP-76306	Firestopping (non-workmanship & processes)	Pending May 2003
SBC-TP-76400	Detail Engineer Requirements for the C.O.	Jan 2003
SBC-TP-76401	Space Planning	Pending May 2003
SBC-TP-76401-001	Floor Loading Considerations	Apr 2003
SBC-TP-76405	Bonding & Grounding	Pending May 2003
SBC-TP-76406	Distributing Frames	Pending Jun 2003
SBC-TP-76407	Equipment Framework	Pending May 2003
SBC-TP-76408	Equipment Superstructure	Pending May 2003
SBC-TP-76410	Raised Floors (BSP 800-000-103)	Apr 2003
SBC-TP-76412	Telco Electrical and Optical Ethernet Standards	Mar 2003
SBC-TP-76413	Connecting Block Standards (89-MDF type)	Pending May 2003
SBC-TP-76414	Connecting Block Standards (COSMIC 78-112 type)	Pending May 2003
SBC-TP-76415	Connecting Block Standards for Protectors	Pending May 2003
SBC-TP-76420	Line Sharing & Line Splitting Interconnection Stds	Pending May 2003
SBC-TP-76430	Synchronization Standards	Apr 2003
SBC-TP-76440	Alarm Standards	Apr 2003
SBC-TP-76450	Common Systems Standards	May 2003
SBC-TP-76450-001	Common Systems Checklist	May 2003
SBC-TP-76450-002	Product Exception & Evaluation Request	May 2003

7. Contact List

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8. Acronyms

8.1 Document Specific Acronyms

a) The term **product supplier** as used throughout this section refers to the equipment manufacturer or agent of the equipment manufacturer, whichever is appropriate for the product being considered.

b) The term **company representative** as used throughout this section refers to the SBC employee representing SBC LOCAL EXCHANGE companies.

c) Requirements are those product features that **must** be provided by the equipment manufacturer. The words "shall" and "must" are used throughout this section to identify requirements.

d) Objectives are product features that are **desired** for the long term use or application. The word “should” is used throughout this section to identify objectives.

e) **Footprint Process** – establishes the framework for identifying, developing and deploying network elements in order to support the network infrastructure.

f) **HECIG** – Human Equipment

g) **NE**- Network Equipment or Network Element package provided by the Manufacturer for consideration.

h) **NTI** – Network Technology Introduction

i) **OEM** – Originating Equipment Manufacturer

j) **OSMINE** - Operations Systems Modifications for Integration of Network Elements

k) **PDP**- Product Delivery Process establishes the framework for identifying, developing and deploying new, wireline products across all regions of the Corporation.

l) **PIM** – Product Integration Manager

m) **PDM** – Product Design Manager

n) **TIRKS** – Trunk Integrated Records Keeping System

o) **SME**- Subject Matter Expert

8.2 Network Acronyms Dictionary

Refer to SBC-000-000-020 for the Network Acronyms Dictionary. This may be found in the internal web site: **http://apex.sbc.com**

9. Copyright Page

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