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The Magazine for Developers of Open Communication, Industrial, and Rugged Systems

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2007 Buyer's Guide

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COLUMNS

PRODUCTS

COVER – Top row, left to right:
The PCI-SIG chose Molex as the global standard for the External PCI Express. Molex technology provides future scalability and flexibility by supporting Generation 1 PCI Express data rates at 2.5 Gbps through Generation 2 bandwidths of 5.0 Gbps.
Pericom's PI2EQX4502 is a protocol-optimized signal conditioner featuring configurable input signal equalization and output signal level and emphasis settings for high-speed differential signals.
Positronic AdvancedTCA Zone 1 power connector shown with MicroTCA input power connector.
Carlo Gavazzi's 544 Series of 5U AdvancedTCA systems meets the high reliability, robust power requirements, thermal management demands, and NEBS needs of the telecommunications, enterprise, and datacom marketplace.
Middle row, left to right:
"Ready to run": Rittal PicoTCA. Compact rack-mounted system, 2U, including backplane, 480 W power supply, hot swap-compatible, pull-out fan units, according to PICMG MicroTCA.0 R1.0.
The Kontron AM4330 is an AdvancedMC IPSec Module - mid-size. PCI Express-based IPSec encryption module ideal to dynamically handle both IPSec and SSL VPN processing applications deployed within mobile communications networks.
The Kontron AT8020 is an AdvancedTCA processor board with two Intel Dual-Core Xeon, two AdvancedMC mid-size slots, and up to 16 GB of DRAM. Supports dual dual-Gigabit on Fabric and optional SAS interface.
The Telesoft Technologies MPAC 2416 and MPAC 5600 CompactPCI telephony blades offer developers, system integrators, and OEMs a highly scalable and flexible development platform for building sophisticated terminating and monitoring solutions for telecommunications environments.
Bottom row, left to right:
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The Motorola Centellis 1000 MicroTCA platform is a flexible communications server ideal for a variety of communications applications.

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VOICE

HIGH AVAILABILITY

NETWORKING/COMMUNICATIONS

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Selecting a modular media gateway to enable VoIP and other content-rich media services
By Venkataraman "VP" Prasannan, RadiSys

January: www.compactpci-systems.com/eletter
Market Study Interview: MicroTCA and IP PBX
Q&A with Norm Bogen, In-Stat

E-CASTS

Optimizing DSP Algorithms for FPGA Implementation
December 6, 2 p.m. EST

MicroTCA
February 1

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Correction: In the September issue the address attributed to Performance Technologies was incorrect. The correct corporate address is as follows:

Performance Technologies • 205 Indigo Creek Drive • Rochester, NY 14626

Editor's Foreword

By Joe Pavlat

*Mil*TCA? Not yet

CompactPCI and AdvancedTCA Systems has published a number of articles about MicroTCA (December 2004; June 2005; June 2006; October 2006), introducing the readers to this powerful and physically small platform architecture. Originally designed for telecom applications, MicroTCA has attracted interest in unanticipated markets. Among these are military land, mobile, and airborne systems.

The MicroTCA architecture is very flexible. Simplex systems with single resources can be built quite inexpensively for applications where low cost is critical and occasional failures can be tolerated. MicroTCA duplex systems with redundant cards and high availability software are more complex and expensive, but can offer availability at the 5-nines level. Military electronic systems designers are rapidly warming to the concept of availability, borrowed from the telecom world where systems are often expected to operate continuously for 30 years or longer.

Simple Mean Time Between Failure calculations, which are often little more than an estimate of how often systems might fail, are increasingly viewed as inadequate for critical jobs. To achieve availability, the system encompasses redundant hardware with software management such that no single element can be a single point of failure for the entire system. In a highly available system, single elements – payload cards, power supplies, and the like – can fail and the system will continue to operate. Failed cards can be replaced at a convenient time, often with the system continuing to operate. Because MicroTCA is a switched fabric architecture and not a parallel data bus, systems can be designed to avoid a single card failure bringing the entire system down. The hardware management structure of MicroTCA is largely borrowed from the well wrung out AdvancedTCA management architecture. Industry standard high availability middleware, like that defined by the Service Availability Forum, can be used.

Is MicroTCA robust enough for the military? Not yet. While it is ruggedized to telecom standards for shock, vibration, temperature, earthquake, and other extremes, it is not yet ready for the harsher requirements of the mobile military environment. At the same time, a number of PICMG member companies are working on developing packaging concepts to make MicroTCA more suitable for these environments. Among the concepts:

- *Cocooning* a MicroTCA chassis inside an ATR box with shock mounting and conduction cooling
- Metal clamshells that encase AdvancedMC cards and are then rigidly mounted in a special chassis and are directly conduction cooled

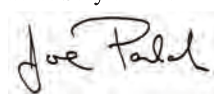
It is expected that this work will move into PICMG and become a formal specification development activity in early 2007.

"Because MicroTCA is a switched fabric architecture and not a parallel data bus, systems can be designed to avoid a single card failure bringing the entire system down."

The AdvancedTCA Summit

This year's Summit, held in Santa Clara October 17-18, was the second year for this highly successful and focused event. More than 800 people attended and 54 companies exhibited, an increase of 30 percent over last year. A great number of operational AdvancedTCA systems, as well as quite a bit of MicroTCA, was on display. It was clear to anyone who toured the exhibits or listened to any of the very good presentations that AdvancedTCA has reached critical mass. This form factor has departed the laboratory and is being deployed in ever-larger numbers in the field. Interestingly, a recurring theme heard from many was that AdvancedTCA is now often a requirement from the telecom industry's customers – the carriers – as they seek to reduce capital and operational expense for the next generation of networks and services. The words *triple play* and *quadruple play* were on everyone's lips. Presentations from the Summit can be downloaded from www.atcasummit.com. Next year, AdvancedTCA Summits will be held in Europe in September, Santa Clara in October, and a new MicroTCA Summit is scheduled for June in the Washington D.C. area.

One very interesting talk, given by Tom Palkert of Xilinx and Bob Nosewirthy and Kristin Harris of the University of New Hampshire's well respected Interoperability Lab, introduced the much anticipated IEEE Draft Standard for 10 Gigabit Ethernet over backplanes, IEEE 802.3ap. In its simplest implementation, 10GBASE-KX4, four pairs running at 3.125 Gbps per pair are used. This matches exactly the already adopted PICMG 3.1 Ethernet on AdvancedTCA specification. Of great interest is the version of the standard that handles 10 Gbps per pair, 10GBASE-KR. This represents a quad speed increase over existing backplane standards. For AdvancedTCA, it means that dual star backplane configurations could handle over 500 Gbps of data and full mesh systems over 10 terabits per second. Will the existing connectors used in AdvancedTCA be up to the task? It's too early to tell, as it will at least require improved SERDES devices, although I am aware of one system being finalized that already runs 10 Gbps per pair over a standard AdvancedTCA backplane made of low loss material using already available high-performance SERDES devices. The MicroTCA connector system already supports speeds in excess of 12 Gbps, so it might be able to support 10GBASE-KR systems as soon as silicon is widely available. Stay tuned.



Joe Pavlat
Editorial Director

VoIP – growth hormone for voice applications

By Herman Abel

This article takes a closer look at some particularly common voice applications and analyzes the impact of VoIP technology on the businesses of solution developers, owners, and users.

It has been said that the mature voice communications market is experiencing the greatest growth rate since the invention of the telephone more than a century ago. But this growth, stimulated by VoIP technology, expands the voice application in a completely new domain, where the full convergence of voice, data, and now video, including fixed line with mobile devices, creates a range of exciting applications that would have seemed futuristic even a few years ago. This metamorphosis is happening incredibly fast. What's more, it's extremely disruptive for the existing voice-based solution business models, which have to transform and evolve rapidly to keep in the game. Now, let's have a closer look at how VoIP has changed the long-standing rules of voice applications and the associated voice-generated revenues.

Call centers into contact centers

The impact of VoIP technology on this application type is so tremendous that it has even affected the application title. No longer known as *call centers*, they are now *contact centers* – prompting full convergence of the communication technologies on the desktops of the contact center staff. Voice, complemented by fax, e-mail, and instant messaging options, integrated into one solution, not only provides the customers a choice of real-time and offline *speak or write* options, but also increases worker productivity along with reducing operations costs. Staff need not go to the fax machine to search for a fax. They can also update customers with progress information in a very convenient way via Short Message Service (SMS).

Another major innovation VoIP brings to call centers is the ability to create distributed and virtual contact center solutions. With a distributed solution, instead of being placed all on one physical site, the agents are distributed among several premises, sited in different geographical locations, or even in different countries. A virtual contact solution avoids the requirement to have call center agents on a site at all. The call center staff, for example, could be working from home. Both the service owners and the customers benefit from these new contact center types: the owners get additional operational flexibility and cost reduction, while the customers mainly benefit from the extended service hours. In the virtual contact center scenario, call center personnel also benefit from the new technology through receiving better working conditions and greater flexibility while working from home, saving commute time and money.

Conferencing platforms

Conferencing is an application that has gone an extra mile in its VoIP-triggered evolution. Instead of being just a multiparty voice conferencing solution, it encompasses voice and video conferencing services as well, often integrated with data sharing capabilities to create multi-functional collaboration platforms.

Utilizing the inherent strength of VoIP to support wide bandwidth as well as narrow band voice, less than satisfactory sound quality has become a thing of the past. New conferencing platforms are offering superior voice quality, guaranteeing an excellent user experience. Moreover, the users can choose basic, cost-free, or even premium rate services for the user requiring a feature-rich conferencing environment.

As a result, customers are no longer charged *per minute*, and service-based offerings rather than usage time-based business models are emerging.

Voice portals

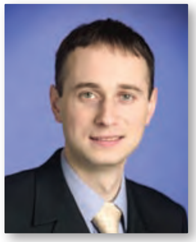
The impact of VoIP on voice portals has not been uniform at all. Some of the basic voice services, such as the *speaking clock*, which have existed for many decades, are still here, operate in the same way, and even cost the same. Others, including the automated information directories, have been transformed completely. The 411 information directory service in the United States and its 118 equivalent in the UK and France are excellent examples of this transformation. Enhanced by the new generation of speech technologies, like Text-To-Speech (TTS) and Automatic Speech Recognition (ASR), this previously premium rate service became more functional, more interactive, and more useful, yet free for the end user. Because VoIP technology releases the voice portals from a clear association between the number of callers and the number of the physical circuits required to serve them, traditional call charges are being abandoned. Instead, employing the *Web 2.0* business model, companies charge advertisers to receive higher priority for their businesses in the directory listings pushed to the callers, not forgetting the call completion feature of *press to connect*, which is rightly seen as the *killer feature* leading to massive revenue generation. Indeed, a long list of benefits is presented by the advanced service to the end users and the facility operators at the same time, leading to exponential growth in the service use.

VoIP mechanics

Although VoIP sparked the exciting metamorphosis of the application examples just discussed, it would not be feasible without a set of underlining technologies supporting VoIP as one of the communication methods. The advance in media processing platforms, used as the core technology, made the creation of these sophisticated solutions possible. From their roots in computer telephony hardware, VoIP-capable media processing platforms now come in two forms. The first one is media processing cards, which perform voice and video handling algorithms on a set of DSPs. The alternative is the software-only media processing performed on a standard computer CPU, called Host Media Processing (HMP). Even though HMP performance is still far behind that of DSP-based media processing boards, HMP is a perfect technology for the creation of smaller scale voice systems. Of course, developers of large scale systems, especially those targeting the telco environment, will continue using specialized DSP-based hardware, especially to support legacy service types, including connectivity to the PSTN telecom environment.

VoIP is the hormone

No technology has had more impact on voice applications than VoIP, not even the migration from analog telephony to SONET/SDH or the introduction of the Intelligent Network (IN) architecture with its SS7 protocol. We have discussed the VoIP influence on some common voice applications, where it gives a boost to the features benefiting both the solution owners and end users. Indeed, with the new *hormone* in the system, the voice applications market is experiencing an astonishing growth. Are you keeping up with the pace?



***Herman Abel** is a product manager at Aculab. He has extensive experience in telecom, wireless communications, and VoIP. His experience also encompasses development of highly complex embedded systems targeting defense applications.*

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AdvancedTCA fits high availability interactive voice and video needs

By R. Brough Turner

With typical requirements for an IP Multimedia Subsystem (IMS) Media Resource Function (mobile TV for example) calling for 99.999 percent availability and scalability from hundreds to tens of thousands of sessions, it's natural to turn to an AdvancedTCA solution, as Brough notes here.

What do interactive music videos on a mobile handset have in common with the recorded call center message "please listen carefully as our menus have changed …"? Quite a bit! Today the same open standards-based platforms enable the rapid development and deployment of all kinds of Interactive Voice or Video Response (IVVR) applications.

Interactive voice response

Over the past two decades, IVR systems have introduced self-service communications in diverse applications including call routing, information delivery, and order processing. However, the traditional touchtone interface that makes interaction cumbersome has led to user resistance, thus limiting the variety of applications that can be offered. Further, custom systems with unique development tools have slowed deployments.

Businesses have responded by looking for new technology alternatives. According to the research firm Gartner, the three most significant changes in the self-service industry over the past three years are:

- The wide-scale adoption of standards-based architectures for voice portals
- The increased use of speech recognition
- A move toward Web architectures[1]

In fact, Gartner estimates that by the end of 2006 more than 80 percent of new speech deployments will leverage an open standards-based platform[2].

3G video

Today, 3G mobile networks have emerged with diverse video capabilities. One mobile video environment is widespread and shields users from the tangle of incompatible handset capabilities – 3G-324M video telephony. Where 3GSM (a.k.a. UMTS or W-CDMA) is widely deployed, every 3G handset has 3G-324M interactive video capabilities, greatly expanding the range of information delivery that is possible. For example, movie information lines also offer still images, video clips, and entire movie trailers.

And with the widespread deployment of video-capable handsets, a new generation of IVR technology has emerged to support multimedia communications and move IVR to IVVR.

Open standards approach to IVVR

In new systems, open standards are used at multiple levels:

- Scripting languages
  - VoiceXML (VXML)
  - Speech Synthesis Markup Language (SSML)
- Interface protocols that support modular systems built upon
  - Media servers
  - Speech servers
  - Blade servers
- Open platform technology
  - AdvancedTCA
  - AdvancedMC
  - Potentially, MicroTCA

Scripting languages and speech technology

The benefits of solutions that leverage scripting languages, such as VXML and SSML, include:

- Rapid development and thus reduced costs for development and support
- Separation between the application platform and the speech processing layer, simplifying deployment of multiple applications

To that, add the benefits of modern speech technology, which include:

- A richer telephony interface, which simplifies menus and improves customer satisfaction
- Easier integration of the telephony interface with Web self-service content, whether voice, graphics, or video

Modular systems and the three-tier model

Several trends have converged to change the way IVR systems are architected. IP and Ethernet emerged to help break down traditional monolithic architectures. Next, the explosion in Web-based applications led to industry consensus on a scalable three-tier model in which back-end databases are distinct from business logic. Business logic, in turn, is distinct from the Web servers that serve pages to individuals' browsers (Figure 1).

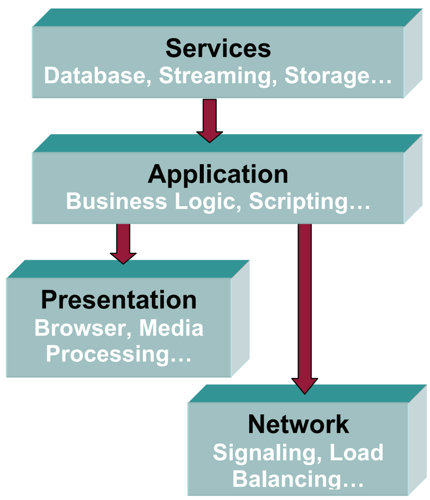
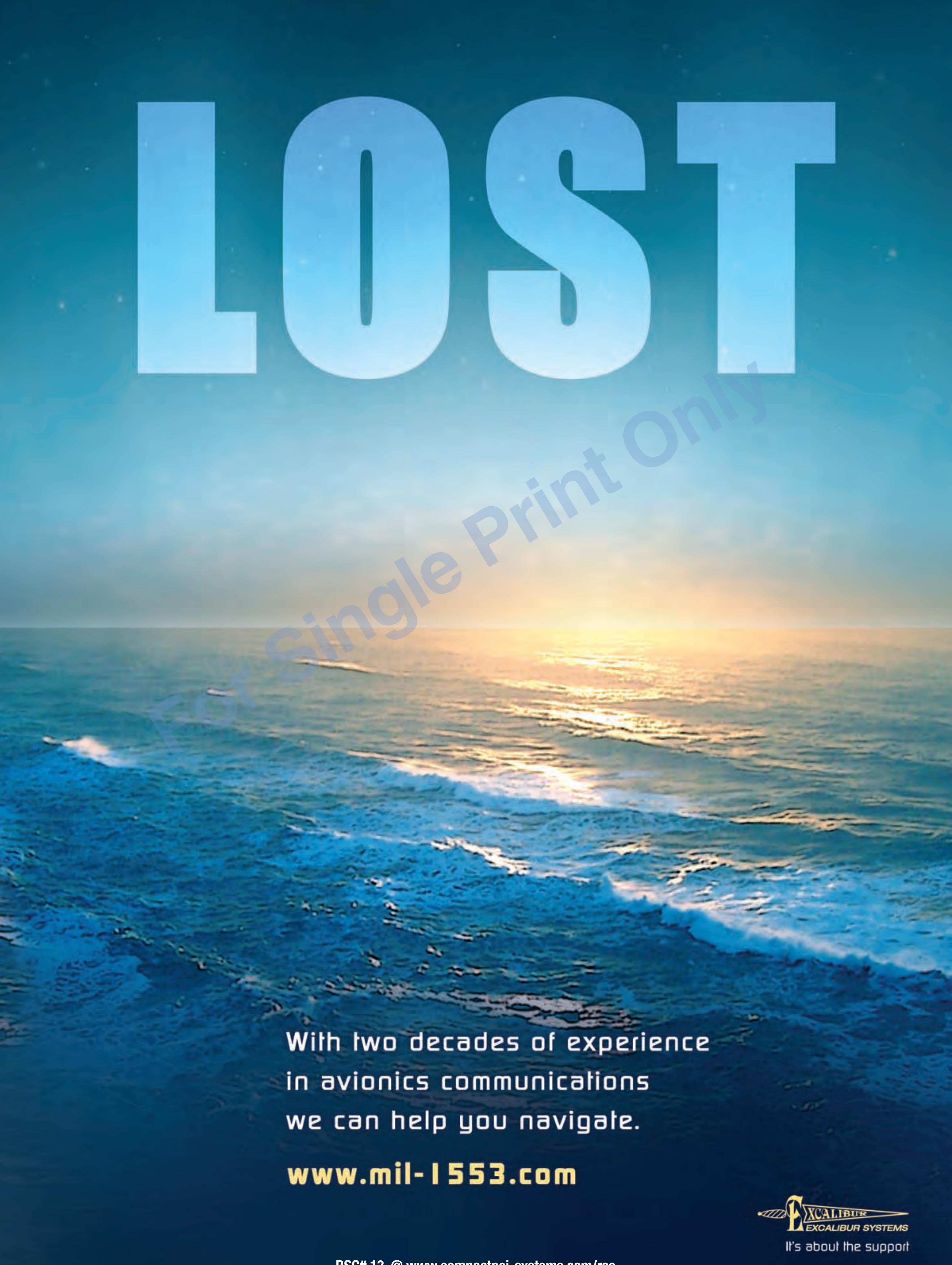


Figure 1

Applying this model to IVR, the Web browser is replaced with a telephony user interface. This is a VXML Media Server, which renders pages of VXML script as audio or audio and video over a telephone connection – either VoIP or a traditional circuit-switched phone call. With the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application written in VXML, both the application server and the content server functions can be implemented using Web server technology from the three-tier model. This results in a cost-effective, highly scalable voice portal that can also be made highly reliable, as shown in Figure 2.

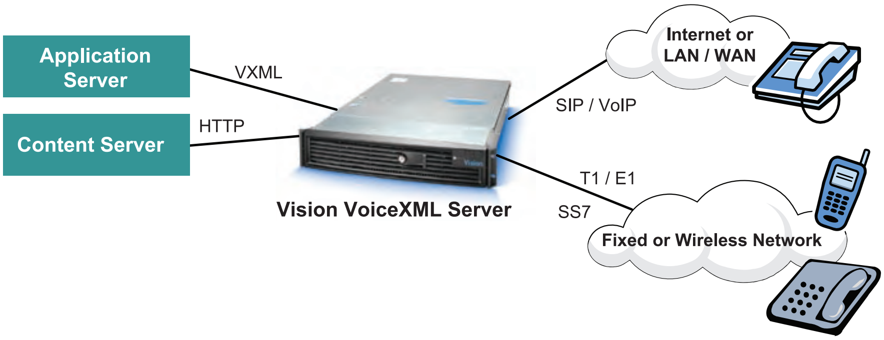

Figure 2

Gartner predicts that shipments of voice portal ports will surpass those of traditional IVR ports in 2007. This shift in the IVR market away from a foundation of monolithic equipment toward a standards-based software model is also opening up the speech application market to a new set of vendors. One reason for this shift is the increase in the use of VoIP in contact centers. Although PSTN callers from wireline and wireless networks still represent the predominant share of call volume, the shift to VoIP has dramatically changed the nature of contact centers to a software applications focus. In addition, the emergence of VXML – the open-standard language for rendering spoken dialogues between people and machines – has made it easier to develop speech-based customer self-service applications, such as a system that enables patients to schedule and reschedule their orthodontist appointments, for example.

AdvancedTCA a natural fit

IVR for an enterprise contact center may be implemented entirely in software running on 1U servers with VoIP connections over Ethernet. However, large contact centers and public network services from directory lookup, to mobile TV, to next-generation phone service, require large scale and high availability. Here AdvancedTCA has emerged as the preferred platform.

At least two markets exist:

- Large-scale IVVR systems
- Components for the evolving IP Multimedia Subsystem (IMS)

IMS is the larger architecture that defines how traditional telecom operators migrate to an all-IP network that supports all current services while enabling many new services. Large IVVR systems are being deployed today. IMS network elements are emerging for core network services. New IVVR services on IMS are expected in the future.

High availability is desirable for any large IVVR system and mandatory for IMS elements like the IMS Media Resource Function (MRF). Typical requirements for an MRF are for 99.999 percent availability or better. In both cases, scalability is critical. Typical requirements extend from a few hundred simultaneous sessions to tens of thousand of sessions or more. AdvancedTCA is a natural fit for these requirements. Typical systems use an Ethernet backplane and dual redundant Ethernet switches that support high bandwidth on the system's Base and Fabric backplane network connections. A system master controller provides the primary management and control interfaces. Both the Ethernet switch and the master controller are replicated in a dual-redundant fashion while all other functions are distributed. Figure 3 shows a typical configuration for building an MRF from AdvancedTCA components. Resource blades such as NMS's DSP-based media processor MG 7000A implement the primary functionality. Arranging the blades in an N+1 configuration eliminates a single point of failure, yet provides cost-effective density of media stream processing.

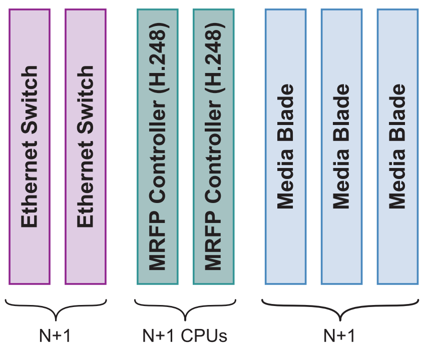

Figure 3

Other kinds of resource blades can be incorporated into this architecture. These blades can be built from special purpose hardware such as DSPs, or general purpose compute blades can be used. A typical IVVR system implements speech resources on N+1 redundant compute blades. The system master controller recognizes a variety of resource blades such as VXML servers, software-based simple media processors, video transcoding and image processing resources, and speech resources including speech recognition and text-to-speech.

Although much of AdvancedTCA equipment will be deployed in packet-based networks, many installations continue to require circuit connections, especially in mobile networks. Depending upon scale, these circuit connections may be provided by adding media gateway blades to the base AdvancedTCA chassis or with a discrete media gateway. The AdvancedTCA implementation of a discrete media gateway looks remarkably similar to the architecture of the MRF, except some or all of the media resource blades terminate TDM circuit interfaces.

Trends

Beyond the continuing improvement in speech technology, two technology mega trends are driving growth in enhanced telecommunications services: VoIP and mobile phones.

VoIP has revolutionized the enterprise PBX and all forms of contact centers while also creating a whole new market of broadband telephony services, including Skype and Vonage. In addition, VoIP technology is replacing circuit-based systems from the enterprise to the carrier with cost-effective and highly flexible packet-based systems that enable whole new classes of applications.

While mobile phone use in the developed world has established a new market for anytime-anywhere access to services, the greater story is exploding adoption of mobile phones in the developing world. These new mobile phone users are seeking the same enhanced network services we see in the developed world, including voicemail, prepaid cards, and numerous forms of self-service, but also conferencing, video sharing, video blogging, and hosted enterprise communications. And while users are seeking services, the mobile phone operators are in highly competitive markets and need to differentiate their offerings through applications and content delivered to their users. Both technology trends enable new applications and new implementations of old applications, thus driving the need for new IVVR systems.

Conclusion

A new generation of IVVR systems has emerged, based on open standards at every level from AdvancedTCA platforms up to standard scripting languages like VXML. This new generation of systems facilitates the rapid development of IVVR applications, not just for contact centers and call routing but for the delivery of rich media content including video and mobile TV.

With the continuing evolution of telephony in developed countries and the rapid adoption of mobile phones in emerging markets, the opportunity for IVVR applications and systems is enormous.

R. Brough Turner *is SVP, CTO, and cofounder of NMS Communications, where he oversees the evolution of NMS's technology and product architectures and works on business strategy and new market development. Brough has broad business experience, but focuses on engineering, technology, and products. Besides AdvancedTCA, his current interests include mobile video, multimodal applications, and wireless infrastructure. Brough writes and is quoted widely on telecommunications topics in both trade and general business publications, and he is a frequent speaker at telecom industry events around the world. He holds a BSEE from the Massachusetts Institute of Technology.*

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References

[1] Bern Elliot, Drew Kraus, Gartner. "Magic Quadrant for IVR Systems and Enterprise Voice Portals," June 2005.

[2] Steve Cramoysan, Gartner. "New Speech Recognition Products Widen Self-Service Options," July 2004.

Communications middleware – building versus buying to attain platform manageability and high availability

By Jim Lawrence

This article examines the build versus buy decision facing Telecommunications Equipment Manufacturers (TEMs) for software components that support availability, management, and serviceability in 5- and 6-nines business critical communications applications.

The task of building telecommunications systems has experienced multiple paradigm shifts in the last decade and continues to morph in response to both changing carrier requirements and available platform technology. Until the late 1990s, TEMs relied on in-house resources to design and build highly customized hardware and the entire software stack that ran on that hardware, bottom to top. The communications industry slowdown that began in 1999 and culminated in the dot-com bubble bursting in 2000-2001 left TEMs with vastly reduced human resources and shelved legacy designs that did not meet emerging converged market requirements.

To meet this new reality, equipment manufacturers have moved from switched to packet data and from segregated voice and data to converged systems. They have also opted for Commercial Off-the-Shelf (COTS) systems, CompactPCI, and AdvancedTCA, and migrated from *roll-your-own* Operating Systems (OSs) to commercial RTOSs and Linux. Most recently the move has been from proprietary software development to Open Source.

These trends are reflective of an ever-rising *value line* that separates commodity from differentiating technology. Today, that value line for TEMs and other OEMs encompasses systems software and is already impacting choice of applications-enabling middleware. Despite this rising tide, communications systems manufacturers continue to invest valuable resources in middleware, notably in the area of availability and fault resilience.

Consolidation through modularity

Traditional TEMs' engineering practices emphasized autonomy, for better or worse. Different groups designed and built line-cards and blades, shelf controllers and appliances, and systems controllers and back-end systems. Through the vagaries of product line evolution, product end-of-life, and mergers and acquisitions, equipment manufacturers frequently developed and deployed highly divergent mixes of hardware platforms, embedded OSs, enabling software, and applications software components.

Despite mandates for technology reuse, TEMs often found themselves facing licensing, training, development, and support burdens for half a dozen or more proprietary and commercial (RT)OSs programmed in a mix of C, C++, Java, assembly, and in-house languages, running on a mix of little- and big-endian COTS and custom CPUs. The daunting task of integrating value-added applications and enabling software integration primarily occurred in-house, regardless of cost, due to the complex interaction of software and hardware components.

Old habits die hard. Even with the advent of COTS hardware (AdvancedTCA) and COTS software (Carrier Grade Linux, high availability software, and ecosystem software components), many TEMs continue to invest *below the value line* by maintaining legacy and/or building new enabling software, which may be mission-critical, but does not provide differentiating functionality.

Scope of OEM value-add

Software content in intelligent devices of all types is doubling annually and long ago outstripped hardware as the nexus of communications product value-add. Legacy communications systems embodied millions of lines of code, with no particular attention to the locus of OEM value-add. Today's converged voice and data systems can embody tens of millions of Lines of Code (LoC). The Linux kernel can include up to 4 million lines and the rest of a carrier grade OS up to 5 million more. Development tools and IDEs consume 5-6 million more LoC. When user interface, networking, and utilities are accounted for the code base quickly adds up to an integration and support burden that can top 30 million LoC – incompatible with the resource realities of today's OEM.

> "In today's marketplace of standards-based blades and intelligent chassis, implementing standard interfaces and correctly driving standards-compliant hardware is both nonoptional and nontrivial."

The scope and size of TEMs' value add, conversely, has remained fairly constant (approximately 500,000 – 1,000,000 LoC), but it has moved higher and higher in the software stack. TEMs, rather than seeking to take on increasing software loads, look to streamline software investments for improved ROI and faster time to market.

Standards compliance

In systems built from specialized, proprietary hardware, or even integrations of in-house and COTS hardware, it was easy to justify investments in custom software for manageability and availability. It was also the norm to *add value* by enhancing standard interfaces and protocols for optimal performance (and customer lock-in).

In today's marketplace of standards-based blades and intelligent chassis, implementing standard interfaces and correctly driving standards-compliant hardware is both nonoptional and nontrivial. Certainly, in-house code can be built or modified to implement or interface to systems based on AdvancedTCA, BladeCenter-T, IPMI, Service Availability Forum (SAF) AIS/HPI, SNMP, and other industry standards and specifications. However, there is a large and important difference between building a *"one-off"* that implements standard interfaces and creating a truly standards-compliant platform that enables interoperability and ecosystem partnering. In particular, standards compliance involves:

- Acquiring/licensing complete standards documentation and validation code
- Exhaustive implementation and testing of standard interfaces and protocols
- Assuming risk of warranting standards conformance for customers and partners
- Ongoing support and maintenance of evolving standards across product revisions

These activities, for example, building and applying a regression test base for ongoing standards compliance and conformance, can be costly and time-consuming. In the past, when TEMs' value emphasized vertical integration, those vendors could charge a premium for such infrastructure work. In today's distributed COTS-centric marketplace, standards compliance represents a core requirement, but not a differentiating one. As such, the mechanics of standardization are better left to "experts" so that equipment manufacturers can concentrate on their core value-add – video, voice, and data applications that enable next-generation services.

Open Source multiplier

Open Source and standardization go hand in hand. The rapid advance of Linux, Apache, MySQL, and other IT infrastructure projects builds on key standards like POSIX, TCP/IP, HTTP, HTML, and SQL, while extending those standards and creating new ones and new channels of interoperability (for example, LSB, Carrier Grade Linux, PAM, Python, and PHP). This same symbiotic relationship applies to enabling technologies in telecommunications: synergies among Carrier Grade Linux and the standards it embodies – LSB, SAF, PICMG – have not only enabled platform providers and TEMs, but spawned new initiatives and ecosystems including LTP, OpenPOSIX Test Project, SCOPE Alliance, and Communications Platforms Trade Association (CP-TA). Until recently however, TEMs had to choose from a limited, mostly proprietary menu of middleware for availability and fault resilience, as Table 1 shows.

Proprietary options merely substitute commercial problems of lock-in and vendor viability in place of challenges surrounding internal resource allocation. The emergence of 100 percent open source options, while promising, has not removed the burden of integration, test, and maintenance from TEMs' budgets. Moreover, fragmented building blocks, however open their source code may be, do not engender the needed community-based implement-deploy-enhance cycle that has driven success in other areas of open source. The optimal combination – prepackaged and integrated open source COTS middleware for availability and reliability – simply did not exist.

Option	Challenge
In-house legacy middleware	Marginal investment; low value-add
Middleware bundled with hardware platforms	Mixed quality and hardware lock-in
Third-party proprietary middleware	ISV lock-in and vendor financial viability
Nascent open source components	Immaturity and lack of component integration

Table 1

Build versus buy

Even after three decades of embedded software development, the build versus buy decision still appears complex and remains emotionally charged. However, what was once "rocket science" is being reduced to mere computer science and economics. Volume deployment of software in the enterprise results in constant incremental gains in reliability of base platforms like Linux. The "many eyes make all bugs shallow" axiom now also applies to the realm of embedded software and even to the rarified domain of high availability and fault resilience. Today, while hardware building blocks boast MTBF ratings that exceed human lifetimes (a mere 650,000 hours), reality dictates most faults still emanate from hardware – hard disks, RAM, network links, bus connectors, and power supplies.

The need to manage those points of failure, as well as actual software faults, dictates the ongoing and indeed increasing need for high availability middleware. However, the same economics that drive COTS hardware and commodity software adoption also impact the remainder of the software platform, all the way up to TEMs' own differentiators of carrier service enablement and brand. In a world now dominated by outsourcing and considerations of cost and time to market, the debate is no longer "why buy?" but "how to buy" with lowest risk and vendor lock-in. Increasingly, the answer to that question is: *commercial open source.*

OpenClovis offers a mature code base in two licensed flavors: 100 percent royalty-free GPL version 2 source code for noncommercial use, and a commercially licensed version of the same code base, accompanied by support, training, warranty, and the other values traditionally only associated with proprietary offerings. Figure 1 shows the OpenClovis application service platform architecture.

OpenClovis source code is just that – open. With no commercial commitment, OEMs can examine, evaluate, and even prototype not only the open APIs and interfaces but also the underlying implementation of key functions like message passing, heartbeat, chassis management, and failover. The open code base gives OEMs, other ISVs, platform manufacturers, and even individual developers the ability to create patches and contribute to the evolution of the platform in ways impossible with proprietary code. For rapid advancement, nothing beats an open community.

***Jim Lawrence** has been a leader in the communications industry for more than 25 years. Prior to OpenClovis, he developed organizational and product strategies that have contributed to the growth and market leadership of several organizations and products within Intel and Motorola. Jim is an active member of the Service Availability Forum Board of Directors and Open Communications Architecture Forum. Jim has a Masters in Program Management from George Washington University and a BS from the University of Maryland.*

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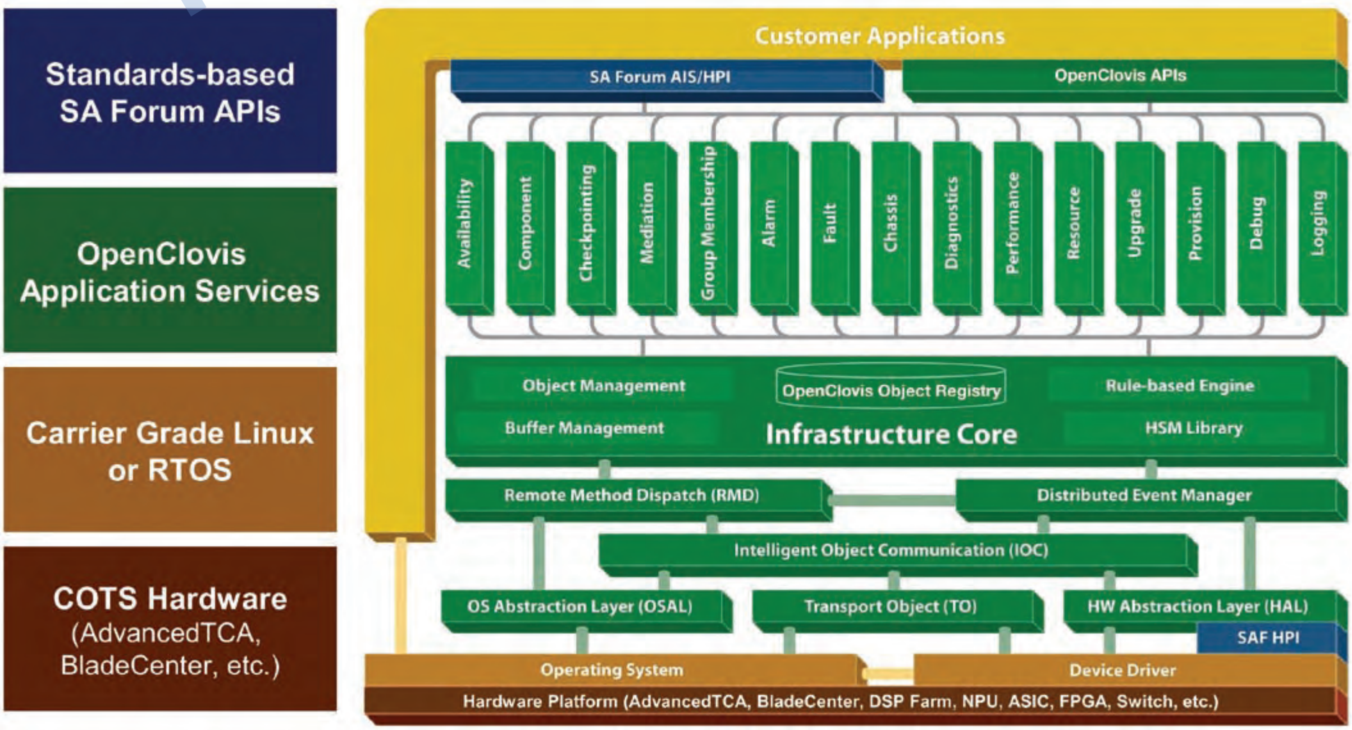

Figure 1

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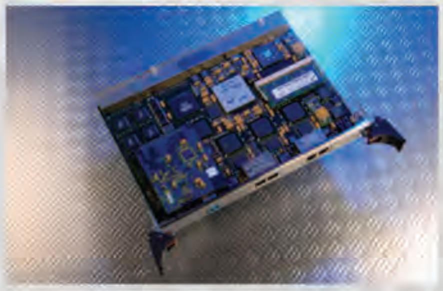

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- Protocol conversion
- IP-SS7/ISDN gateways

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Monitoring & Termination CTI blades

Telesoft's MPAC Telephony Blades provide excellent solutions for integration into OEM switching, signalling and monitoring environments.

Features supported:

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- ATM/HDLC/SIGTRAN HSL links
- ISUP, TUP and ISDN based call control
- Worldwide protocol support
- Switching or service node applications
- Terminate bearer channels
- Switching to the H.110 CTI bus
- Stream bearer channels over the PCI bus
- Non-Intrusive monitoring
- Voice/dtmf detection on all channels
- Fax/data/activity detection available

The MPAC 2416 and 5600 cPCI blades provide an extremely cost effective and high density solutions. Enhanced bandwidth and performance is offered through support for ATM, HDLC and SIGTRAN High Speed Links, (*HSL*), on the blade.

PICMG 2.16 compatible allowing management to be performed by an in shelf SBC or from a remote node. The same features and functionality are also available in PCI form factor on the MPAC 1800 telephony board, all cards support for Linux, Solaris and Windows.

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Converged Telephony & Media CTI board

The MPAC 5600 TDM blade offers system integrators an extremely compact and cost effective high performance telephony development blade.

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AdvancedTCA and beyond in '007:
Licensed for killer apps?

Q&A with John Fryer and Shlomo Pri-Tal

As 2006 comes to a close, it seems appropriate to consider what 2007 and beyond will bring for the AdvancedTCA ecosystem. OpenSystems Publishing Editorial Director Joe Pavlat spoke with John Fryer and Shlomo Pri-Tal of Motorola.

OSP: ***John, you recently addressed the AdvancedTCA Summit and had a chance to take a look at the state of the technology. What did you find particularly interesting?***

John: Increased interest around the software aspect and platforms in general. There's interest around the Service Availability Forum (SA Forum) and movement from interest to adoption in the marketplace.

OSP: ***Who do you see as the main suppliers of SA Forum-compliant middleware?***

John: Aside from us, the two major players out there are GoAhead and OpenClovis.

I think the players recognize that it is a big step to go from a software solution for high availability to a hardened platform that encompasses both hardware and software. Clearly that path is a big part of our strategy with the Avantellis platform. The industry wants to adopt a fast and inclusive solution across a very broad range of platforms, not just across COTS platforms, but across proprietary platforms as well.

OSP: ***Management on the equipment provider side seems to understand that they need to focus on intellectual property, yet we have 100 years of engineers proclaiming: "We have to do everything ourselves to ensure quality and reliability." Are cultural problems going to keep the rate of AdvancedTCA adoption artificially low for a number of years?***

John: There are a couple of perspectives on that: If you run back the clock say three or four years ago when AdvancedTCA was just starting to appear in the marketplace, it had a promise, but really had no market, either existing or evolved. There were experiences from CompactPCI and PICMG 2.16; certainly the 2.16 platform we could assess as being moderately successful at best.

Now if we fast-forward to today, you have commitments to AdvancedTCA technology from virtually all the network equipment providers, the exceptions being Ericsson on the wireless side and Cisco on the wireline side. They are market leaders, and it is natural that you will have reticence among the market leaders to adopt a new technology, because if you lead the market, you think you are doing it right.

We are definitely past the point of: "Should we adopt AdvancedTCA technology?" and have moved onto: "How do we adopt it and when?" On the carrier side we are seeing RFPs with a requirement to implement AdvancedTCA capability.

OSP: ***Why do the carriers care?***

John: If you look at a lot of the network architectures out there today, every time they want to implement new functionality, it essentially means they need to add a new device. So it makes every aspect of the business more expensive: You have

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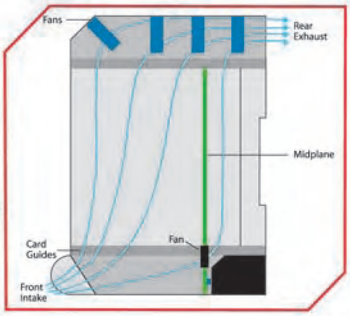
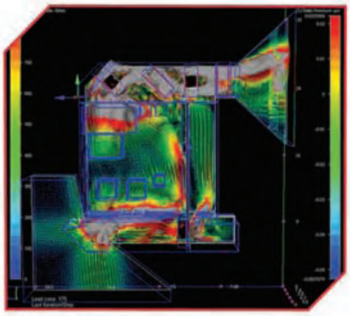
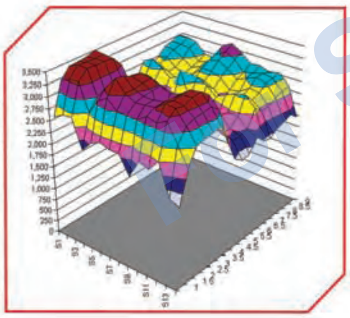


Airflow Diagram


CFD Simulation


Chassis Slot Velocity Map

Hybrid Serial Parallel Cooling Delivers 99.999% High Availability

The Schroff Hybrid Serial-Parallel (HSP) cooling scheme uses axial fans in an innovative way to optimize shelf availability while minimizing downtime. Traditional fan trays contain rectangular combinations of serial and parallel fans with the goal of providing adequate bulk airflow to cool electronic components – at the design point. Fan failure conditions can compromise that ability, particularly in individual slots or regions.

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Schroff's HSP design staggers the fans and arranges them at right-angles to the boards. The staggered fan distribution draws air from slots below and adjacent to each fan, but without the risk that a dedicated sealed channel presents. When a fan fails, the next fan upstream or downstream will continue to draw air with a marginally reduced cooling capacity until the fan is replaced. The end result is a dependable shelf with uniform slot-by-slot and front-to-rear airflow.

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It is not just the capital expense, it is the operational expense – they have to keep spares for N different devices. Now it is N+1 different devices.

OSP: ***So carriers got the religion that AdvancedTCA would reduce their CAPEX and OPEX?***

John: Yes. That's the promise. If you look inside the equipment manufacturers, legions of engineers continue to believe they can do the job better than AdvancedTCA can do it, and in all probability, if they set out to design a specific piece of equipment, they can do it better …

OSP: ***… and have it ready for market in three to five years.***

John: That is not the name of the game any more, the name of the game is all about time to market and rapidity of these services and being able to collapse multiple functions together. One of Shlomo's favorite sayings three or four years ago was: "Networks into boxes, boxes into blades."

What the industry is all about today is collapsing functionality and combining functionality in new and different ways, some of which cannot be foreseen today. It's important to have platforms that are good enough, and flexible enough, to do the job rather than having the perfect platform for a specific network function.

Shlomo: I think the adoption of AdvancedTCA is a done deal, there is no question. I think the challenge we have now is to deliver. And when we say, "deliver" we don't mean a blade, we mean platforms – that is what customers want from us. Carriers' time to market is to launch services; they don't give a darn about the hardware. They see the industry widely adopting AdvancedTCA with all the other things necessary to make a platform as a means for them to be able to launch services quickly.

OSP: ***How long will AdvancedTCA have sufficient force and power to be a major platform in the market?***

Shlomo: It all depends on two things: One, what can you accommodate from a fabric perspective, and two, what can you do from a heat perspective?

If we as an industry can develop very high-speed fabrics and accommodate 500 W and above per blade, it could survive for a very long time.

OSP: ***We are going to have to support 10 gigabit per pair technology?***

John and Schlomo: 10 gig [per slot] is not the issue. The issue is to go beyond 10 gig, to have 10 gig times four per slot.

OSP: ***With 10 gig per pair, as opposed to 3.125 gig per pair, which is where we are now, heat is going to be a problem because of the need for higher-powered processors to handle the traffic. Best practices in VME and CompactPCI were around a watt per cubic inch power dissipation in the subrack. AdvancedTCA made it to about 1.25 W per cubic inch. I don't think we're going to double that amount easily with just forced air.***

Shlomo: It is reasonable to say that the network transport core is going to be very specialized; don't worry about it, and don't try and capture every last application, just stay where the volumes are. You can survive with 10 gigs per pair [up to 40 gig per slot]; you do not need more than that, not for 10 to 20 years.

But the core is a different issue – they are looking at multiple 10 gig and 100 gig pairs – forget that, just don't go there. There are always going to be fringe applications where it is highly doubtful a standard environment is going to be adopted.

The other thing to remember is success depends on the ability of the industry to deliver reliable products. That is why SCOPE [Alliance] is so critical, because they tell you what they want, which we did not have before, and [the Communications Platforms Trade Association] CP-TA is so important because it assures that we can deliver what they want – and that it works. (See OSP *Editor's Notes* February 2006 *CompactPCI and AdvancedTCA Systems* compactpci-systems.com/columns/Editors_Notes/pdfs/2006,02.pdf. SCOPE Alliance is an association of the major network equipment providers.)


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If we do not succeed with these two activities, and if we do not make them the centerpiece of the ecosystem to deliver product to the NEPs, AdvancedTCA is not going to deliver on its promise.

John: So building platforms to the SCOPE requirements is also the way we will bring down the remaining barriers with the equipment manufacturers.

OSP: ***What percentage of the overall market will the profiles that SCOPE is developing be able to address? 10 percent? 50 percent?***

John: That is a challenging one to answer.

Shlomo: It depends on how you count it. I don't think we will ever get into the core, in spite of the fact that maybe we will have equipment that can do that. It is an area that the NEPs are not going to relinquish for a long time.

Now as to access, AdvancedTCA is not going to go into access – it is too big, too cumbersome, too expensive. MicroTCA may very well, unless we overcomplicate it and burden it with features that may not be necessary. So if you say that 50 percent of those two at the edge and the access is open to us, that is a pretty big number.

John: And I think AdvancedTCA is a done deal for anything pertaining to a telecom-related control plane, particularly where you need a blend of computer-centric applications with packet processing or media processing capability.

OSP: ***Speaking of packet processing, with the demise of Intel's network processor group …***

Shlomo: Network processors are a thing of the past. It is a different programming model, nobody understands it, and nobody can program it efficiently. What our customers are telling us is that they want to do both control and data plane using the same architecture. So what you are going to see is the increasing importance of multicore processors. MIPS64 in this case will be used – you will see some limited success from that, and eventually you will see high multicore processors from Intel. Whether or not they are going to be successful in this particular space remains to be seen, but they are not going to give it up.

OSP: ***What about FPGAs, do they play a role?***

Shlomo: For specialized functions, probably, but when it comes to just mainstream packet processing I do not see why anybody would use anything but multicore general purpose processors particularly when the various engines are attached to the multicore processor itself.

John: Some things like FPGAs may well play a role where an equipment manufacturer decides to build a blade. Equipment manufacturers will continue to build blades for areas that are very specialized, where they feel they have a particular expertise they don't want to give up – and that is a model that sits along very well with an off-the-shelf communications server type platform.

OSP: *How is convergence of IP and legacy TDM influencing the adoption of AdvancedTCA?*

John: We are seeing markedly increased interest around pure IP applications, that is, packet-based applications. The need, and the legacy requirements, are still there, but diminishing rapidly. They are more down to the interface level rather than the transport level. For example, a year or two ago there was more talk of: "How do we switch TDM streams through AdvancedTCA devices?" There were all sorts of ideas about how to do that, and quite a bit of work was being done in that area, but I think we are seeing a diminishing interest in that. Now pure IP-based applications are starting to come to the fore. Just look at the growth of VoIP over the last year, and the writing is clearly on the wall. So there is less of a requirement to support TDM-type stuff and more of a focus around IP.

One of the questions popping up with regard to Shlomo's comments about going beyond 10 gig is: "How can we tackle the IP transport plane, or the Ethernet transport plane, and what should do about that?" We can't do that in an effective way with AdvancedTCA; we can do it in a limited way, but that would be one of the next interesting places to go."

As Shlomo said earlier, the challenge is how to evolve these platforms over successive generations of technology until there is a general consensus that you cannot do any more.

Multicore technology has come along at a very opportune time because it changes the dynamic. Much of the path forward seems to be bigger, hotter, more powerful single processor Xeon-type technology, but we have been getting a lot of push back saying: That is not the way we want to go, we want a profile that fits within the 200 W envelope. Silicon vendors are being pushed to come up with that. Now solutions are appearing, and Intel is on that bandwagon as well.

OSP: *I suspect that absent new developments in device physics, which we have not seen in 20 or more years, just the heat, as well as the sheer number of transistors and the amount of memory required, are going to create obstacles at some point.*

Shlomo: Yes, but at the same time the point that John is making is very true, we have to push back on suppliers.

OSP: *Speaking of fabrics, is everything other than Ethernet essentially dead?*

Shlomo: Yes, for AdvancedTCA. For AdvancedMCs and MicroTCA, I do not consider PCI Express to be a fabric, but it probably would have a use. Also RapidIO, because of its use in DSPs. The mainstream market will be Ethernet. What we should

MicroTCA

OSP: *Are you optimistic about MicroTCA?*

Shlomo: If MicroTCA is an environment that allows us to go to the access layer of the network in a very efficient way, then it is going to be successful. If on the other hand we start complicating it by making it dual star redundant, and 5- and 6-nines reliable and essentially dilute MicroTCA in relation to AdvancedTCA while burdening MicroTCA with capabilities that are not necessary, I am less optimistic.

OSP: *I happen to agree with you on that. I worry about a real chicken and egg problem with MicroTCA. The costs of an empty chassis, with its specialized power supply, individual control lines to each slot, and a whole MCH are not inherently a high expense if someone is willing to invest and bring out silicon. Right now it is fairly expensive. At the same time, the silicon manufacturers are going to have to see MicroTCA volume as attractive before they are going to invest in it with chips. My worry is that MicroTCA is stuck at the moment in this area where it is expensive and vendors are concentrating on high end, fully redundant, duplex MicroTCA. And at the high end, it competes too much with AdvancedTCA, especially as AdvancedTCA volumes increase.*

Shlomo: What is interesting is that we see quite a bit of demand and interest in MicroTCA from non-telco applications, particularly defense and aerospace and medical. We see substantial volume coming up on MicroTCA; there is a lot of excitement in the marketplace about it.

John: I think one of the issues with MicroTCA in talking with some of the telecom guys, is that if you move more and more to the edge where MicroTCA would naturally fit, those become more and more cost-sensitive applications, so I have had people say to me: "Look, we spend every minute of every day taking every cent we can out of the cost of our products, so what you have to be able to show us is that you can deliver a general purpose platform equivalent at any cost point to what we can do today." That is a significant challenge given where we are today in the evolution of MicroTCA, and it speaks to Shlomo's point of: Be careful what you burden MicroTCA with in terms of the telecom-type applications.

The telecom market is still developing for MicroTCA; it is potentially so flexible, and there are potentially so many form factors being talked about. There are myriad packaging options driving to different markets, each of which has a different price point, and it can become a complicated equation. However, MicroTCA volumes will be driven by industrial, defense, aerospace, and medical applications so the telecom folks may be able to take advantage of those economies of scale.

OSP: *I get widely varying thoughts from people on how much of the AdvancedMCs market is going to be for MicroTCA. Do you see AdvancedMCs as representing 2 percent of AdvancedTCA volume? 10 percent? 20 percent?*

Shlomo: I don't know the answer, and the reason that I do not know the answer is that it seems doubtful that the same AdvancedMC can accommodate both environments [AdvancedTCA and MicroTCA], especially if you design it for dual star and things of that sort. I believe that MicroTCA will drive the volumes of AdvancedMC.

OSP: *Which means the AdvancedMC architecture might change to be more cost-effective for MicroTCA?*

Shlomo: Which makes it less cost-effective for AdvancedTCA. Now you reach a tradeoff between laying capabilities in the blade versus having it in a plug-in module.

do as an industry is make Ethernet have the capabilities to take us into next-generation systems, rather than inventing new fabrics.

OSP: ***Which tells me we have to get to 10 gig per pair in a couple of years.***

Shlomo: We have to do whatever we need to do to assure we have the runway to stay with Ethernet for a long, long time. You are not going to have any other fabric that delivers the commercial benefits Ethernet does. It's going to be adopted by the enterprise market in general. It is a done deal; let's go make it perfect.

OSP: ***One of the elephants in the closet is Huawei. Their business model has always been to try to develop some of their products around standards, so they can fuel their export market. Granted, they do not have much presence in North America and may never, but they are pretty big in other parts of the world. Do you see Huawei weighing in?***

John: Well, I think they are already there. I mean we know they have significant investments in AdvancedTCA. Huawei's presence in general has driven a lot of manufacturers toward AdvancedTCA whether they like it or not to get to the price point that enables them to compete with Huawei. They are a factor on everybody's radar, including our own as a potential customer but also as a potential threat in the marketplace.

OSP: ***And looking ahead to 2007 …***

Shlomo: 2007 will be the year of assuring interoperability of products. While the overall trend is for integrated platforms, there are still enough customers who want to buy building blocks and integrate them, and we have to assure they have an absolutely superb experience.

OSP: ***The equipment is moving out into carrier deployment?***

Shlomo: Absolutely. We see that today.

John: So volume building is one of the things we will start to see in 2007, and will even start to see in 2006. The challenge is delivering full platform to 5-nines. I think we have gone through some of those growing pains this year, and they should start to pay dividends in 2007.

OSP: ***Were there more growing pains than you had anticipated in 2006?***

John: The whole industry discussion around thermals, and what it means for a platform to be 5-nines, and the integration of the software with the hardware is a substantial effort.

We will start to see the benefits in 2007. It is a lot easier to walk into somebody's office and say: "Do you want to take these building blocks and use them yourself, and you can layer on some software, and it will all work." It is a major step to go from that to a hardened 5-nines platform. I think we will see much more of a trend toward that kind of decision in 2007 as these platforms appear in the marketplace.

OSP: ***What will the issues be for AdvancedTCA five years from now?***

Shlomo: The ability to continue evolving in a backwards-compatible manner.

John: Once we get past the basic interoperability stuff, that is what the industry has to focus on.

Shlomo: Keep the connectors, keep manageability. Keep backwards compatibility on the server to the extent that you understand that at some point there might be a departure, but it would be very far in the future.

So, yes, backwards compatibility is crucial. That is what has kept VME going for 25 years now. It is not the technical features or anything else, it is the fact that you do not reset the market every time you come up with something new – you leverage what you have already built, you leverage the volumes.

OSP: ***What type of a lifetime do you see for AdvancedTCA in terms of being a mainstream platform for telecom?***

Shlomo: I see no reason why it should not last as long as VME.

__John Fryer__ is director of technology marketing for Embedded Communications Computing within Motorola's Networks business. He is responsible for determining market trends and future customer requirements to develop strategic directions of Motorola's AdvancedTCA and MicroTCA based communications servers.

__Shlomo Pri-Tal__ is president and chairman of the Board of Directors of the Communications Platforms Trade Association (CP-TA). He is also the director, Group Technology Office, for Motorola's Embedded Communications Computing business. He oversees Motorola's participation in standards development organizations and industry consortia.

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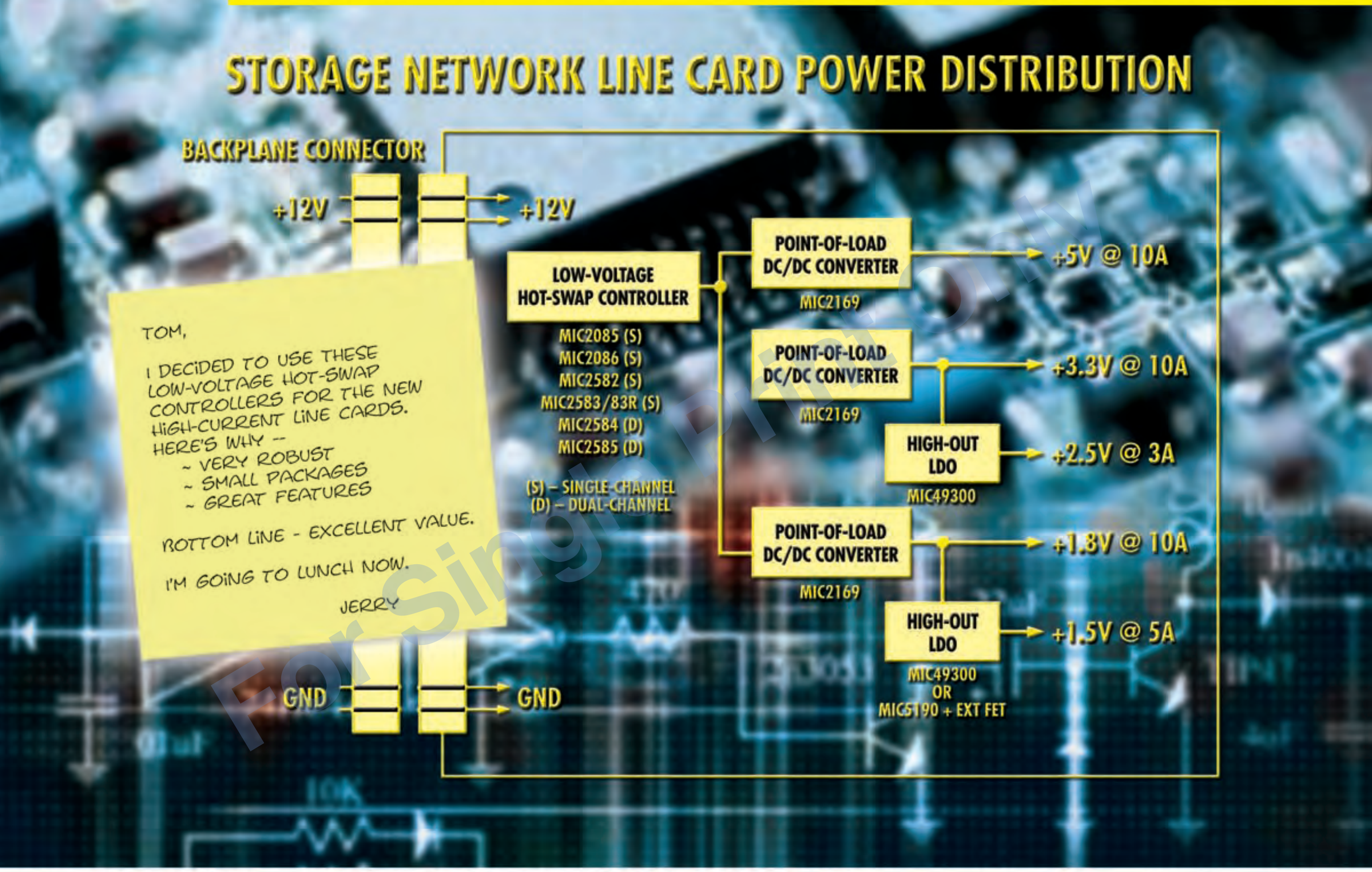

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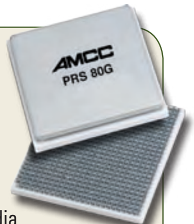
aTCA-6891
RSC No: 30203

PICMG 3.4 AdvancedTCA Advanced Switching Option 3 • Quad ASI x4 fabric interface channels up to 5-slot • Full mesh configuration, 32 Gbps • Dual 64-bit low voltage Intel Xeon 2.8 GHz • 1 MB L2 cache • Hyper-threading processors • Dual DDR2-400 REG/ECCC channels with 16 GB max. capacity • Intel E7520/6300ESB/6700PXH chipset • Dual 64-bit 33/66/100/133 MHz PCI/PCI-X with PIM • RAID 0/1 SATA support

www.adlinktech.com

AMCC



AMCC PRS80G-ATCA
RSC No: 32163

Switch blade supports 8x 10 Gbps full-duplex slots with QoS enforcement at media speed • Suitable for the convergence of voice, video, and data traffic, thanks to efficient QoS, bounded transit delay, and guaranteed precedence of time sensitive traffic over other traffic types • QoS enforcement at media speed supported by end-to-end, in-band flow control mechanisms through the switch fabric • Real-time traffic support, for example TDM • Video and audio distribution applications enabled by multicast and broadcast mechanisms supporting 100% line utilization with high QoS • High priority traffic can be made fully pre-emptive, while alternate options can guarantee bandwidth to lower priority traffic, even under high traffic load conditions

www.amcc.com

Continuous Computing Corporation

FlexCompute cPCI CD1215
RSC No: 32084

Compute blade • Low voltage 1.5 GHz Intel Core 2 Duo L7400 • 2x performance of Intel Pentium M • High performance, low power Intel 3100 bridge chip combines North and South bridge functions • Robust 2 GB and 4 GB PC2-3200 ECC memory • PCI and Gigabit Ethernet connectivity for IP-centric applications • PMC or PT5MC options: PCI, PMC I/O pins routed to RTM, two GbE ports via onboard Ethernet switch • Extended duty 40/80 GB SATA drive option (single slot) • SAS SFF disk for applications requiring NEBS temperature range • Onboard eight-port Ethernet switch 64-bit, 66 MHz backplane PCI bus interface • USB and serial to front and rear

www.ccpu.com

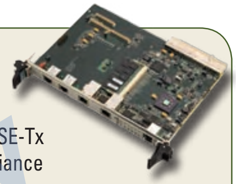
Cluster Labs GmbH

Blade Server CPU450 **RSC No: 32172**

3U modular CompactPCI blade server with Intel P4 2.2 GHz, up to 2 GB RAM • Dual LAN, PS/2, USB 2.0, RS-232 • Chassis for 3 CPU with RAID-1 with 2 HDDs SATA, redundant • PS, 5 years warranty • CompactPCI 2.0, 100x160 mm, 3U blade, 4TE • 1 Intel CPU P4 2.2 GHz embedded • 2 SIMMS for 2x1024 MB RAM (DDR) • All devices for network, keyboard, mouse, screens • USB 2.0 for external CD.ROM/DVD • SNMP features for monitoring • Works up to 68 °C

www.cluster-labs.com

Cyclone Microsystems



CPCI-824 **RSC No: 32168**

PowerPC 440GX communications blade • Two 1000BASE-Tx ports • Two 100BASE-Tx ports • Up to one GB SDRAM • CompactPCI blade format • NEBS Level 3 compliance

www.cyclone.com

Diversified Technology

ATC5231: AdvancedTCA Node **RSC No: 32147**

Intel Xeon processor based node board designed for the next generation of telecom equipment markets • Dual LV Intel Xeon processors with speeds up to 3.06 GHz and 2 MB L2 cache • Intel E7520 chipset and 800 MHz Front Side Bus • Supports one onboard 64-bit/66 MHz • 3.3 V PMC cards • Two 10/100/1000 Mbps auto-negotiating Ethernet controllers for the base interface • Two 1000 Mbps Ethernet ports for the fabric interface • One 64-bit/66 MHz PMC site

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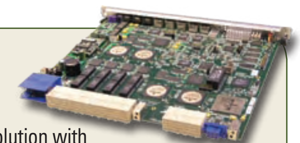
Diversified Technology



ATS0020: AdvancedTCA Hub Switch Blade **RSC No: 21683**

AdvancedTCA switch blade (PICMG 3.0 base switch) • Fully managed solution with SNMP, CLI, Web interface, and Telnet/SSH • 24 port Gigabit Ethernet Base Fabric L2/L3 switch • Wire-speed nonblocking performance • Supports up to the full 16 slots shelf • High availability through redundant hub board support • Dual redundant shelf management controller support (cross connect)

www.atcatogo.com

Diversified Technology, Inc.

ATC5232: InfiniBand based AdvancedTCA Node
RSC No: 22751

PICMG AdvancedTCA Specification 3.2 Option 1 • Xeon processor with speeds up to 2.8 GHz and 1 MB L2 cache per processor • Intel E7520 chipset and 800 MHz FSB • Configurable up to 16 GB with 72-bit registered ECC DDRII 400 MHz SDRAM • 2.5" IDE micro drive mounted on board and onboard CompactFlash carrier • Two 10/100/1000 Mbps auto-negotiating Ethernet controllers for the base interface • Two 10 Gbps x4 InfiniBand ports for the fabric interface

www.atcatogo.com

Diversified Technology

ATS1160: AdvancedTCA Hub Switch Blade **RSC No: 21673**

AdvancedTCA switch board (3.1 Option 1) • 24 port Gigabit Ethernet base fabric L2/L3 switch • 24 port Gigabit Ethernet expansion fabric L2/L3 switch • Fully managed solution with SNMP, CLI, Web Interface, and Telnet/SSH • Wire-speed nonblocking performance on all 3 switches • High availability through redundant hub and shelf manager support

www.atcatogo.com

Diversified Technology

ATS2148: InfiniBand based AdvancedTCA Switch **RSC No: 21671**

InfiniBand based AdvancedTCA hub switch blade • PICMG 3.0/3.2 Option 1 • 24 port Gigabit Ethernet base fabric L2/L3 switch • 24 port 4x fully managed InfiniBand expansion fabric switch • Supports up to the full 16-slot shelf • Fully managed solution with SNMP, CLI, Web interface, and Telnet/SSH • Wire-speed nonblocking performance on both switches • High availability through redundant hub board support

www.atcatogo.com

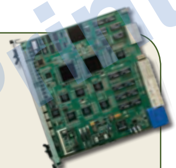
Omni Device

USPS-3000 **RSC No: 32133**

A fully AdvancedTCA 3.0 and 3.1 compliant switch blade that provides 24 Gigabit Ethernet base interface ports and 24 Gigabit Ethernet fabric interface ports • Fully PICMG 3.0/3.1 option 1 compliant switch fabric • 24 GbE ports for base I/F and 24 GbE ports for fabric I/F • Support up to 16 slot AdvancedTCA shelf • 8 GbE Base and 8 GbE Fabric I/F for uplinks • Dedicated ports for Redundant Hub and Shelf Manager • Support AdvancedTCA IPMI with redundant IPMB • Wire-speed L2 switching and static routing • Management function with CLI, SNMP, and so on

www.omnidevice.com

Omni Device



USPS-3200
RSC No: 32134

Fully AdvancedTCA 3.0 and 3.1 option 2 compliant switch blade • Optionally support option 9 for 2 specific slots • Fully PICMG 3.0/3.1 option 2 compliant switch fabric • Support partially PICMG 3.1 option 9 (10 GbE) for specific 2 node slots optionally • 48-port GbE nonblocking switch fabric • Redundant Hub and Shelf Manager using dedicated ports • Support AdvancedTCA IPMI with redundant IPMB • Wire-speed L2 switching and static routing • Management function with CLI, SNMP, and so on

www.omnidevice.com

RSC# 3001 @ www.compactpci-systems.com/rsc

RSC# 3002 @ www.compactpci-systems.com/rsc

Emerson Network Power Embedded Computing

KAT4000
RSC No: 30194

Configurable AdvancedTCA blade for telecom infrastructure applications • Equipped with four AdvancedMC expansion sites • Versatile switched fabric with support for Gigabit Ethernet and PCI Express • Modular fat pipe design that can be upgraded to support Serial RapidIO and 10 Gigabit Ethernet in the future • IPMI system management • Optional Freescale 8548 Management Processor • Multichannel PICMG 3.1-compliant, AdvancedTCA interface with an aggregate bandwidth of up to eight Gbps • Suits a broad range of telecom infrastructure applications, including SS7/SIGTRAN signaling, media gateways, traffic processing, wireless base stations, and softswitches

www.artesyncp.com

GE Fanuc Embedded Systems

ATCA-7820 CPU Blade
RSC No: 32180

AdvancedTCA single board computer with two dual-core Intel Xeon LV 2.0 GHz processors and flexible memory options • Utilizes two dual core Intel Xeon LV 2.0 GHz processors, which provide four high-performance processor cores per platform • Provided with 2 MB of L2 cache • Up to 8 GB DDR-2 400 SDRAM with ECC • Support for a Serial ATA connection using the AdvancedMC site • PICMG 3.1 compliant • AMC.1 compliant site (single-width, full-height, 60 W max.) PCI Express x8 (local resource only) • Mouse/keyboard support, Dual TTL level serial connections, USB 2.0 connections, and 32-bit/33 MHz PCI bus connection out the "User" zone

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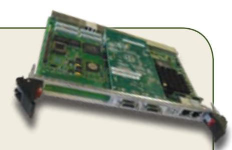
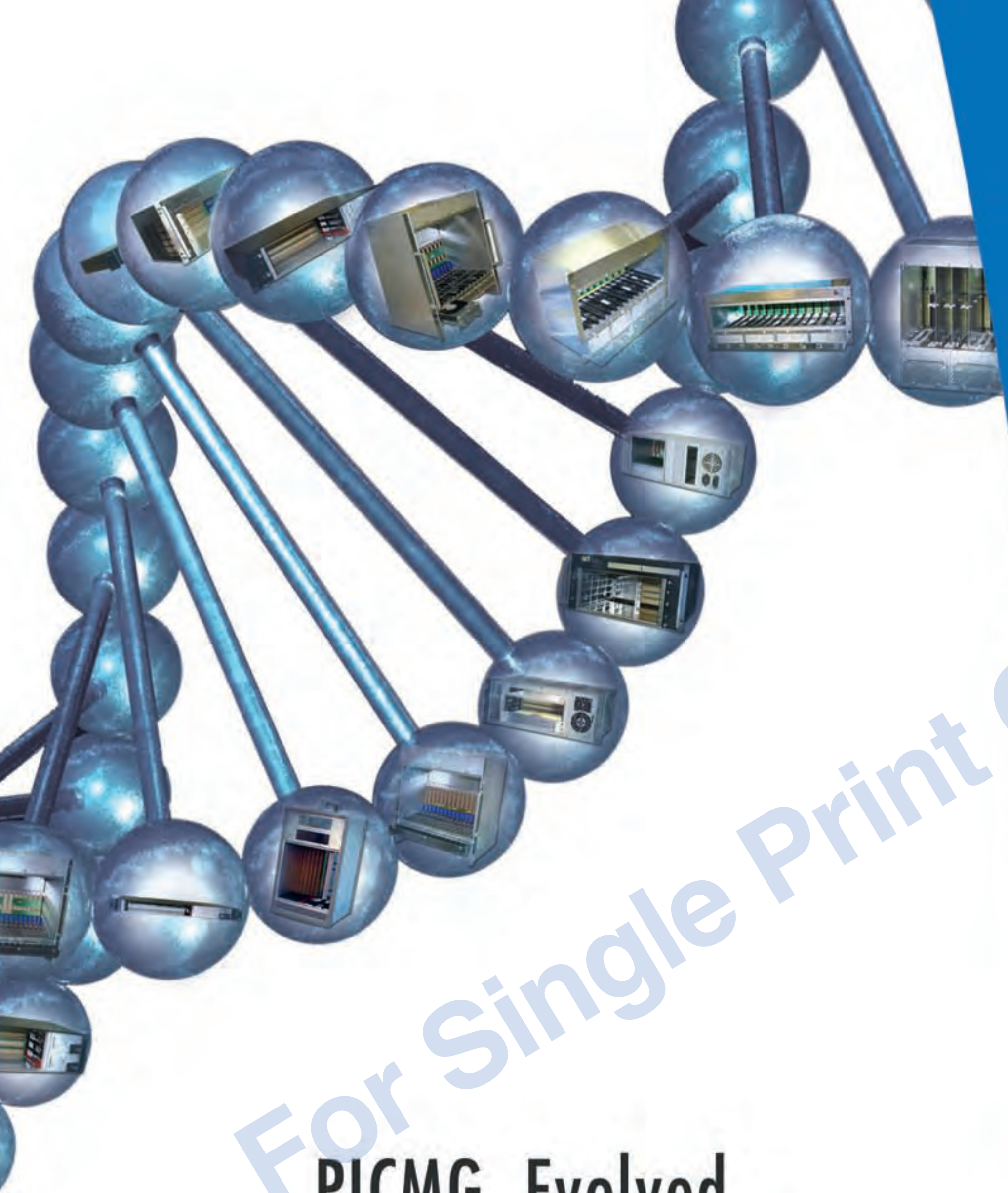


SAS iBlade
RSC No: 25273

A scalable, high-performance, and fault tolerant CompactPCI blade • Eight 3 Gbps SAS/SATA ports with integrated iSCSI support (up to 16 ports optional) • IETF RFC 3270 compliant iSCSI with full error recovery (ERL2 • 6U CompactPCI blade with full Hot Swap (PICMG 2.1) • Dual node Gigabit Ethernet (PICMG 2.16 cPSB) • System management: IPMI/IPMB (PICMG 2.9) • MPC7447A PowerPC processor, 1.0 GHz • Optional CT Bus enabled PTMC site (auto-sensing PMC, PT2MC, or PT5MC) • Front panel management via 10/100/1000 Ethernet

www.sbei.net



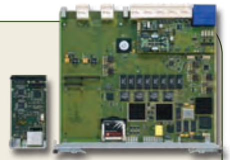
MicroTCA Chassis

CompactPCI Express Chassis

AdvancedTCA Chassis

CompactPCI/2.16 Chassis

Motorola Inc., Embedded Communications Computing

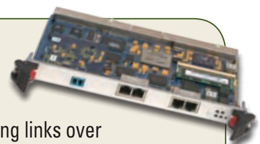


ATCA-F300 AdvancedTCA Switching Blade **RSC No: 18708**

Managed 24-port Layer 2 Gigabit switch for base interface with static routing • Gigabit Ethernet support for 14 payloads • Eight base and one fabric Gigabit Ethernet uplinks via RTE • 16-port Layer 2 Gigabit Ethernet switch for fabric interface • AdvancedTCA management controller (IPMI version 1.5) communicates with shelf management controllers • SNMP agent for switch management • Option for TDM clock generation and synchronization • Designed for NEBS Level 3 and ETSI requirements

www.motorola.com/computing

Telesoft Technologies



MPAC 5600 STM-1 cPCI **RSC No: 31521**

An extremely compact and cost effective SDH access blade offering 128 signaling links over E1/T1/HSL and STM-1/OC-3 interfaces • Provides everything required to interconnect with modern networks in a CompactPCI form factor • Supporting PICMG 2.16 packet switched backplane, and PICMG H.110 timeslot interchange bus, it will interoperate in either PCI or packet managed environments • Sixteen E1/T1 ports, up to 4 HSL ports HDLC or ATM, dual 100 Mb and dual 1 Gb Ethernet, bearer channel streaming over RTP/CESoPSN, progress tones, WAV file play, fully nonblocking switching, terminating, or monitoring mode and fully RoHS compliant

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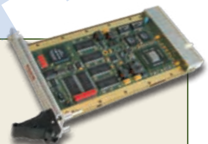
ACTIS Computer



CSBX-3545 **RSC No: 32222**

3U CompactPCI CPU board • PowerQUICC III MPC8545E at 1.2 GHz • Up to 1 GB DDR SDRAM with ECC, Gigabit Ethernet • User FPGA, Cyclone with 50 I/O pins • Rugged versions • Conduction cooled • Extended temperature option

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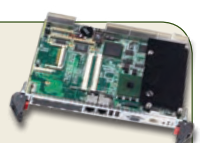
Advanet

A6pci8019 **RSC No: 32166**

Pentium M CompactPCI CPU board with up to 5 Gbit Ethernet ports supporting packet switching for telecom switching applications • Intel Pentium-M 745 at up to 2.0 GHz • Single-slot 6U CompactPCI PICMG 2.0/R3.0 • Supporting up to 2 GB SODIMM/PC2700 ECC • Hot-swap capable • PICMG 2.16 • Packet Switching back-plane Rev1.0 • PCI local bus Rev. 2.2 • Five Gigabit Ethernet Ports (2 front + 3 rear) • Rear Transition Module (RTM) • Supporting Windows and VxWorks • Supporting NEBS Level 3 • RoHS compliant

www.advanet.co.jp/en

Advantech Corporation



MIC-3390 **RSC No: 30060**

6U CompactPCI-based high-performance Intel Pentium M single board computer with PCI Express and IPMI 2.0-compliant interface • Suitable for mission critical telecom and data communication applications where high availability is essential • 6U CPU board provides increased throughput and improved call-handling capabilities for applications at the edge of the network such as application servers, media gateway controllers, and home location registers • High-speed, low-power computing with support for the latest Intel Pentium M processors • Combined with the Intel I/O Controller Hub ICH6-M, this SBC supplies performance, connectivity, and throughput without compromising system thermal design • Supports up to 2 GB of DDR2 system memory on dual-channel SODIMMs • High-speed data transfer across the 400/533 MHz system bus provides 3.2 GBps peak memory bandwidth • Mobile Intel 915GM Express chipset, offering an integrated memory, graphics and I/O solution

www.advantech.com

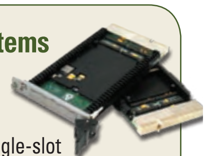
Sun Microsystems

Netra CT 900 Server
RSC No: 30378

A 12U, 12 user node, AdvancedTCA blade server that supports both UltraSPARC IIIi and Opteron simultaneously and with a choice of Solaris or Carrier Grade Linux • PICMG 3.0 and 3.1 compliant • UltraSPARC and Opteron • Solaris and Carrier Grade Linux • 12U and 12 user nodes • NEBS Level 3 certified

www.sun.com

Aitech Defense Systems

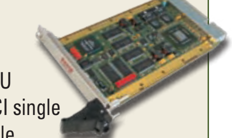


C901
RSC No: 32021

Rugged 3U CompactPCI single-slot SBC • PowerPC 7448 processor @ 1.4 GHz with Altivec Technology • 200 MHz MPX Bus • Fully PICMG 2.0, Rev. 3.0 compliant • Marvell MV64460 Discovery III System Controller • System controller or peripheral board Operation • Up to 1 GB of DDR400 SDRAM (@ 200 MHz) w/ ECC • 64 MB Boot Flash Memory • 128 MB User Flash Memory • Up to 2 GB Flash File Memory (NAND • 128 kb Autostore NVSRAM • Four high performance DMA Engines • Two 10/100/1000 Mbps Ethernet ports • Two USB 2.0 ports • Two multiprotocol high-speed serial ports supporting RS-232/422/485 • Eight single ended TTL or four RS-422 differential Discrete I/O Lines • One standard PMC slot • Four 32-bit timers • Fixed, programmable, and windowed (avionics) watchdog timers • Real-time clock • Onboard temperature sensors • RTOS support • Conduction and air cooled versions • Vibration and shock resistant

www.rugged.com

Alphi Technology Corporation



Actis CSBX-3545
RSC No: 32276

1.2 GHz PowerQuicc CPU card • A 3U CompactPCI single board computer available either for standard convection cooling applications or conduction cooling for critical embedded applications • Up to 1 GB of DDR memory with ECC support and 8 MB of flash memory for the on-board monitor software • 1 GB flash is provided for data or program storage • Two Gigabit Ethernet ports and a Altera Cyclone II FPGA offering up to 50k Logic Elements, for user-tailored solutions

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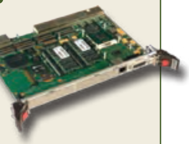
Concurrent Technologies

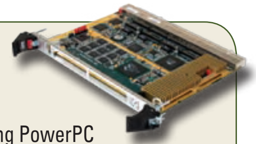


PP410/03x 2xPMC SBC
RSC No: 32181

A high performance, dual PMC CompactPCI SBC • Intel E7520 server class chipset • Operates in a system or a peripheral slot • 2.0 GHz or 1.66 GHz Intel Core Duo processor: dual-core processor, 667 MHz Front Side Bus, 64 KB L1 cache per core, 2 MB L2 cache shared between cores, no CPU fan needed; low power processor • Up to 4 GB of dual channel DDR2-400 ECC SDRAM • Two PMC module interfaces, with front and rear user I/O: 64-bit; 33/66 MHz PCI and 33/66/100 MHz PCI/PCI-X • One XMC module interface (x8 PCI Express) • High performance SATA and EIDE disk interfaces with optional onboard disk drive • Onboard CompactFlash or Hitachi GST MicroDrive • 3x 10/100/1000 Mbps Ethernet interfaces

www.gocct.com

GE Fanuc Embedded Systems



C2K Single Board CP **RSC No: 32178**

Rugged PICMG 2.16 compliant 6U CompactPCI Single Board Computer featuring PowerPC G4 processor, 1 GB SDRAM, and extensive I/O • MPC7447A or MPC7448A PowerPC G4 processor from Freescale and UP to 1 GB SDRAM with ECC • Three Gigabit Ethernet ports, 8 serial ports, 2 1.5 Gbps SATA 1.0 ports, three USB 2.0 ports at backplane, 16 programmable GPIO ports • Two 64-bit IEEE 1386 • 1 PMC extension slots • Convection-cooled and conduction-cooled versions available for operation from -40 °C to +85 °C • Ruggedized versions for extended shock and Vibration tolerance • Real-time clock, watchdog timer, temperature sensor

www.sbs.com

General Dynamics

PC3010 **RSC No: 32209**

Intel Pentium M up to 1.8 GHz • 3U, CompactPCI, conduction-cooled single board computer • Up to 2 GB DDR-SDRAM 333 MHz memory • Single slot, 3U, CompactPCI • IEEE 1101.2, conduction-cooled • Mil-Std 810F compliant • Selected as single board computer for U.S. Army Future Combat System (FCS) Integrated Computer System (ICS) for current force

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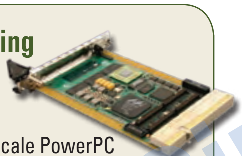
CWCEC: Processing



SCP/DCP-124
RSC No: 31800

3U CompactPCI • Freescale PowerPC 7447a/7448 processor • 64-bit, 33/66 MHz PMC Expansion Site • Memory: 512 MB of DDR1 SDRAM with ECC at 133 MHz, with a growth path to 1 GB • 128 MB nonvolatile Flash • Flash for Permanent Alternate Boot Site (PABS) • 128 KB nonvolatile RAM • I/O: Two 10/100/1000BASE-T Ethernet port, two RS-232 serial port, two HDLC/SDLC-capable EIA 422/485 serial channels (both synchronous), one USB 2.0 • 84 general purpose DMA controllers • Up to 14-bit Discrete I/O • Up to 8 bits Differential Discrete I/O (4 inputs, 4 outputs) • Comprehensive Foundation Firmware • BSP Support for VxWorks 6.0 support PowerPC • Ruggedized, available either air- or conduction-cooled

www.cwcembedded.com

General Dynamics

PC6020 **RSC No: 32212**

6U CompactPCI single board computer • Conduction-cooled • Intel Pentium M up to 1.6 GHz • Up to 1 GB SDRAM • IEEE 1101.2 • MIL-STD-810E compliant

www.gdcanada.com

General Micro Systems

CC61x ROCK **RSC No: 30412**

A high-performance, 3U conduction-cooled, rugged CompactPCI Pentium M SBC • Up to 1.4 GHz Pentium M processor with up to 2 MB of L2 cache • Ultra-low power requirements as low as 12 W max. • Up to 2 GB of 266 MHz DDR SDRAM • Up to 16 GB of bootable flash memory • Baseboard Management Controller (BMC) to meet PICMG 2.9 • Full health reporting and monitoring with extensive BIT/EBIT • Dual GbE ports with TCP/IP offloading engine • Dual video to support DVI and RGB simultaneously • Full power management control: ACPI 1.0 compliant (suspend to memory/disk); Geyserville III support (speed and voltage stepping); support for battery operation and standby power • Four USB 2.0 ports, two Serial ATA, and two serial ports Available in standard 0 °C to +55 °C or extended temperature -40 °C to +85 °C

www.gms4vme.com

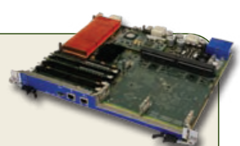
Dynatem

C3PM / C3RM
RSC No: 32108

The C3PM is a 3U CompactPCI compatible platform based on the Intel low power Pentium M processor • Suitable for rugged applications • Available with the Ultra Low Voltage 1.0 GHz at 5.5 W, the low voltage at 1.4 GHz at 10 W • 512 MB DDR-267 • Bootable CompactFlash • -40 °C to +85 °C operating temperature • Also available in rugged, conduction-cooled versions

www.dynatem.com

Kontron

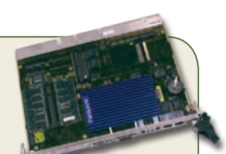


AT8020
RSC No: 31283

AdvancedTCA Dual Dual-Core Xeon with two AdvancedMC • Up to 16 GB of DRAM • Dual Intel Core Duo Xeon • Support up to 16 GB of DDR2 • Two mid-size AdvancedMC bays • Dual dual-Gigabit on Fabric • SAS interface available • Some recommended applications include: Media servers, media gateways, broadband access controllers, cellular base station controllers, SGSN, and RNC

www.kontron.com

Kontron

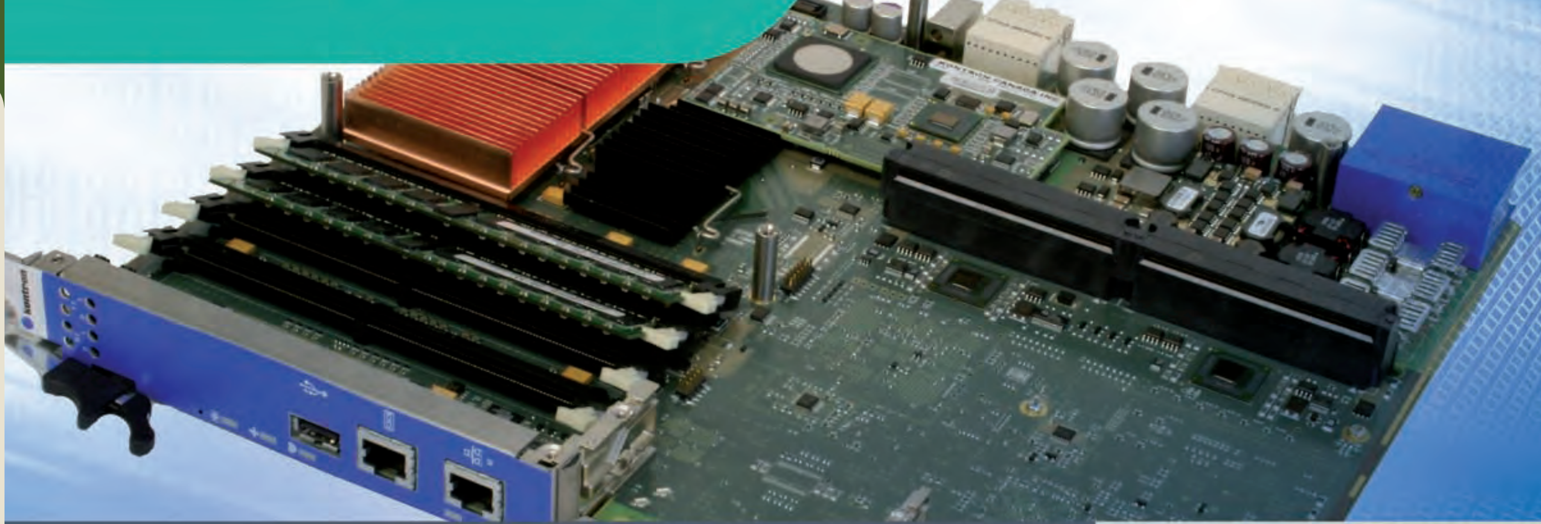


CP6000-Value
RSC No: 30189

CompactPCI/PICMG 2.16 cost optimized value oriented design • Low Power Celeron (no cache) up to 1 GHz • Single-slot 4HP CPU with passive cooling • Scalable memory size up to 2 GB PC333 SDRAM • Two GbE on FP (or PICMG 2.16) VGA, two USB • PMC + onboard HDD + CompactFlash configuration possible simultaneously

www.kontron.com

RSC# 205 @ www.compactpci-systems.com/rsc



Sponsored by: Kontron www.kontron.com – See page 29.

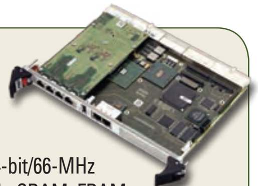
Kontron

CP6012 Core Duo **RSC No: 30032**

A 6U CompactPCI CPU board with Intel Core Duo processor (2 GHz) • E7520 and 6300ESB chipset • PCI Express-based computing blade; PCI Express based 4HP, single-slot CPU with passive cooling • Scalable processor speed, Intel Core Solo – Core Duo up to 2.0 GHz • Support of latest PSB performance with 667 MHz • Up to 4 GB DDR2 400 MHz SDRAM via two SODIMM sockets • Four GbE interfaces via PCI Express • Latest I/O technology with USB 2.0 channels and SATA • XMC/PMC + onboard HDD + CompactFlash configuration possible; rear I/O supporting PICMG 2.16

www.kontron.com

MEN Micro Elektronik GmbH



D6 **RSC No: 30659**

6U CompactPCI blade server • Pentium M up to 2 GHz • ULV Celeron M 1 GHz • PCI Express 4 lanes x4, plus 2 x4 (or 1 x8) • 4 HP CompactPCI system slot, 64-bit/66-MHz • Hot-swap, PICMG 2.16 support • Up to 1 GB DDR2 ECC SDRAM • Non-volatile SRAM, FRAM • Up to 1 GB Flash-on-disk (NAND), hard disk • 2 SATA, 2 PATA interfaces• 4 Gigabit Ethernet PCI Express • 3 USB 2.0, 2 COM • Individual I/O in FPGA • 2 XMC/PMC slots (PCIe) • Board management control

www.menmicro.com

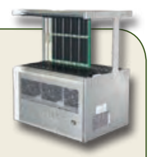
MEN Micro Elektronik GmbH

D601 cPCI SBC **RSC No: 31924**

Single Board Computer (SBC) • Intel Pentium M • Intel Pentium M processors and conduction cooling for fanless operation in military, aerospace, and various industrial control applications • With either the 1.4 GHz Low Voltage (LV) Pentium M or the 1 GHz Ultra-Low Voltage (ULV) Celeron processors industrial temperature range of -40 °C to +85 °C is supported • Can also be equipped with Intel processors with speeds up to 2 GHz • 32-bit/33 MHz interface to the CompactPCI bus, but the D601 can also function as a standalone processing unit in bus-less systems • 915GM chipset provides high-speed communication for Gigabit Ethernet connectivity and graphics • 2 SATA ports • Onboard memory is high-speed Double Data Rate 2 (DDR2) DRAM with access rates of up to two Gigabits per second (Gbps)

www.menmicro.com

MEN Micro Elektronik GmbH



F17 Core 2 Duo SBC **RSC No: 31923**

As one of the first CompactPCI single board computers (SBC) featuring the Intel 2.16 GHz Core 2 Duo processor, the F17 from MEN Micro delivers the high throughput. • CompactPCI single board computer with Intel 2.16 GHz Core 2 Duo processor • 32-bit/33 MHz single-slot, 3U CompactPCI SBC or a standalone embedded processor • 945GM Express chipset makes use of six lanes of high-speed PCI Express serial communications and two Serial Advanced Technology Attachment (SATA) ports • With a sidecard, the F17 also be configured as the System Controller in a CompactPCI Express system • Front-panel I/O includes two Gigabit Ethernet ports which utilize PCI Express and two USB 2 interfaces • Four gigabytes of fast Double Data Rate2 (DDR2) memory and a CompactFlash slot, which can accommodate either flash memory or a 1.8-in. disk drive

www.menmicro.com

NEXCOM International Co

ICES 180 **RSC No: 31277**

AMD LX 800 on-board • One 200-pin SODIMM up to 1 GB • VIA VT6105 10/100 Ethernet • Integrated graphics supports both standard VGA and LVDS. LVDS transmitter onboard for LVDS interface down to I/O board • +5 V power only, follow ETX power and ground pin definitions

www.nexcom.com

North Atlantic Industries

78C2 **RSC No: 32144**

This universal card eliminates the need for specialized, single function cards by providing an assortment of functions on one single card • The "mother board" has 6 module slots • Multiple functions on a single slot CompactPCI card • No damage if signals are applied when card is not powered • Commercial or severe environment MIL • Conducted cooled versions available • Software driver/library and Support Kit available

www.naii.com

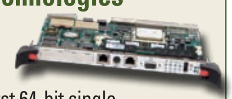
One Stop Systems

OSS-EBP-2001 **RSC No: 30447**

Eighteen PCI Express x4 slots with x8 connectors • One PCI Express x8 slot • One SHB slot also supports an expansion adapter board • Two ATX power connectors, two SATA connectors, two Ethernet connectors, and four protected USB ports

www.onestopsystems.com

Performance Technologies



CPC5564 SBC
RSC No: 30352

The CPC5564 is the first 64-bit single - slot CompactPCI single board computer designed for high-performance embedded applications, featuring the AMD Opteron 940 single core 2.2 GHz or dual core 1.8 GHz processor • 64-bit single or dual core processor support • Single-slot high density compute blade • High-performance computing solution for PICMG 2.16 systems • 128-bit memory addressability to 8 GB, PC3200 DDR SDRAM with ECC • Onboard eight-port Gigabit switch • XMC/PMC expansion port with support for 2x1000 Mbps Ethernet, eight lane PCI Express, and PCI-X 64/133 • CompactPCI hot-swap and IPMI BMC controllers • Supports both 32- and 64-bit operating systems: Linux x64, Windows XP x64, Solaris 9/10 x64 • Full compliance with PICMG 2.16 and 2.9 specifications

www.pt.com

Printed Circuits Corp.

Customized Boards **RSC No: 30190**

Printed Circuits Corp. (PCC) specializes in quick turnaround, both in prototype and production • 19 years of experience in PCB fab and EMS manufacturing • Design • Layout • PCB fab • PCB assembly • Turnkey • Box build services available • Electromechanical-PCB design/layout and photoplot • NPI concept-finish • EMS: Proto-Production • PTH/SMT • Hand and auto assembly HD SMT • SS/DS and high density MLB to 12 layers; FR4; 4000 series laminates; SS/DS/MLB, LPI, SMOBC, Electroless nickel/immersion gold • Box build, repair, and test services • High density multilayered boards • Double-sided boards • Single-sided boards • Silk screening, BGA and fine pitch surface mounts • ENIG immersion Gold, finish • Flash and electrolytic gold plating LPI solder mask over bare copper • Nickel and gold tab plating • Electrical testing • Photo plotting, SDB/8a certified • ISO9000 in process • UL 94V-0 and UL 796 approved

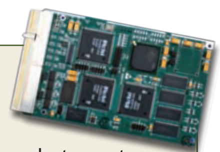
www.pcc-i.com

WIN Enterprises

PL-06064 **RSC No: 31972**

Very compact computing platform featuring the AMD Geode LX800@0.9W processor and 3 LAN support • CPU: AMD Geode LX800 • Scalable performance network appliance for the SMB/SOHO market • Supports AMD Geode LX800 processor • Three 10/100 LAN and four 10/100 switches • One console port • Compact size: 9" W x 6" D x 1.2" H

www.win-ent.com



Space Micro

Proton 200k RH SBC **RSC No: 32210**

Radiation hardened space computer, 900 MFLOPS / 4,000 MIPS • Powered by the Texas Instrument DSPs, the fastest space computers available • Options include RH reconfigurable FPGA • 900 MFLOPS (Floating Point) and 4,000 MIPS (Fixed Point) processing speed • SEL >70 LET (MeV/mg/cm2) SEU <1 per 1,000 days TID 100 krad (Si) SEFI 100% recoverable • Interfaces: CompactPCI, 32-bit, 33 MHz internal/ external bus • 3.3 V I/O voltage • UART 4-channel buffered async w/RS422 (std) • Options: LVDS; 1553; SpaceWire; CAN; Ethernet; USB, and so on •16 GPIO (programmable general purpose I/O) • Power: 5 W (standard board, options will demand more power) • Memory: 64 MB (std) to 256 Mbyte SDRAM with EDAC • 1 MB (std) to 8 MB EEPROM • Mechanical: 3U (std), or 6U (optional); custom sizes

www.spacemicro.com

WIN Enterprises

PL-06065 **RSC No: 31973**

Very compact computing platform featuring the AMD Geode LX800 @ 0.9W processor and 4 LAN support • Desktop AMD Geode LX800 Network Appliance with four 10/100 LAN and Mini PCI • CPU: AMD Geode LX800 • Scalable performance network appliance for the SMB/ SOHO market • Compact size: 9" W x 6" D x 1.2" H • Four 10/100Mbps PCI bus Ethernet • One console port • One Mini PCI expansion socket

www.win-ent.com

GDA Technologies

8548E AMC **RSC No: 31959**

A powerful, cost-effective solution for AdvancedTCA server blades, wireless base stations, media gateways, enterprise network access systems, and test and measurement systems • MPC8548E PowerQUICC III Processor at 1,333 MHz • Four Gigabit Ethernet ports • Eight PCI Express lanes (verified in target and standard modes) • Support for Katsumi ("Misty") • DES, 3DES, MD-5, SHA-1/2, AES, RSA, RNG, and ARC-4 • Intelligent power management v1.5 • AMC.x compliant, single-width, full-height form factor • Embedded Linux and GDA diagnostics software • Serial RapidIO Interface (optional)

www.gdatech.com

Kontron

AM4002 **RSC No: 32255**

AdvancedMC processor module • Single-width, full-height • Intel Pentium M, scalable up to 2.0 GHz • Max. 4 GB DDR2 400 MHz memory • Max. 4 GB soldered flash for embedded application code • Flexible Gigabit and PCI Express fabric interface • Superb monitoring features • PICMG AMC.0/.1/.2/.3 compliance • IPMI v1.5 support

www.kontron.com

Kontron

AT8400 Carrier AMCs **RSC No: 29926**

AdvancedTCA carrier board that supports up to four full-height, hot-swappable AdvancedMC modules • PICMG 3.0/3.1-compliant base and fabric carrier board • Four cutaway AdvancedMC slots for full-height, single-width AdvancedMC modules • PCI Express and Gigabit Ethernet switching • Redundant base interface and dual redundant fabric interface • Telco clock for all AdvancedMC slots • Full hot swap capabilities • Management via SNMP, TELNET, CLI, either in-band or out-of-band via 10/100BASE-T Ethernet, or RS-232 • IPMI version 1.5 support

www.kontron.com

Performance Technologies

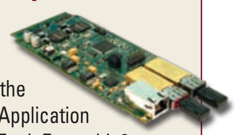
AMC111
RSC No: 31116

High-performance computing solution for AdvancedTCA and MicroTCA systems • Single board compute module designed for high-performance embedded applications • 64-bit single core AMD Turion 2.0 GHz processor • Single-width, full-height • 64-bit memory addressability to 2 GB • PC3200 DDR SDRAM with ECC • Supports both 32- and 64-bit operating systems: Linux x64, Windows XP x64, Solaris 9/10 x64 • Full compliance with AMC.0 R1.1 specifications

www.pt.com

Mercury Computer Systems

Ensemble2 AMC Board
RSC No: 32031



Carrier board • Provides the basis for the Ensemble2 Application Development Platform • Each Ensemble2 AdvancedMC site provides RapidIO connectivity and Gigabit Ethernet through its connector • Each AdvancedMC carrier board in the Ensemble2 system has four AdvancedMC sites, with two 10 Gbps RapidIO interfaces for an onboard aggregate bandwidth of 80 Gbps • The boards are intended for use in a 14- or 16-slot star topology and a 5-slot mesh configuration • A fully configured Ensemble2 chassis can encompass up to 56 AdvancedMC modules per system • Scalability and flexibility is essential to support application benchmarking tasks, with the backplane delivering as much as 150 Gbps of low latency and efficient data messaging capacity • Multichassis support is available via Serial RapidIO fiber mezzanine modules

www.mc.com

VadaTech

AMC340
RSC No: 32211

Dual DVI/VGA AdvancedMC module • Includes ATI's M22-CSP high performance graphics processor, one of the fastest and most advanced 2D/3D graphics processors available for the embedded market, with 64 MB DDR memory • Dual DVI/VGA output • 1920 x 1440 resolution • x4 lanes (fat pipes region) • Full-height, single-width • AMC.1 compliant

www.vadatech.com

Performance Technologies

AMC131 **RSC No: 31117**

The AMC131 is a 32-bit AdvancedMC compute module designed for high-performance embedded applications • Freescale Dual Core 1 GHz vMPC8641D PowerPC Processor • Single-width, full-height compute module • High-performance computing solution for AdvancedTCA and MicroTCA systems • Up to 2 GB ECC DDR2 SDRAM • Four Gb Ethernet interfaces • AMC.0, .1, and .2 compatible • Linux and Windows operating system support

www.pt.com

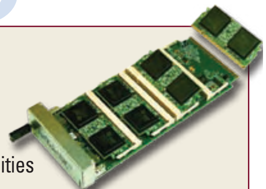
Performance Technologies

ATC8010 **RSC No: 31115**

Intelligent carrier card for AdvancedTCA that fully utilizes all the advanced capabilities of the PICMG 3.0/3.1 standard • AdvancedMC carrier blade with four hot-swappable mid-sized carrier sites – Fully compliant with PICMG 3.0/3.1 Base/Fabric Specification • Onboard 1 Gb/2.5 Gb/10 Gb Ethernet Switch • Offers the highest speed interconnects available for AdvancedTCA • 16 1 Gb/2.5 Gb plus four 1 Gb/10 Gb wire-speed, nonblocking ports support IPv4/IPv6 switching • Quad 1 Gb Interfaces for Base, Quad 1 Gb/10 Gb interfaces for fabric • Dual 10/100 connections to the shelf managers • Each site serviced by two 1 Gb/2.5 Gb wire-speed, nonblocking base/fabric connections with synchronization clock and I-TDM support • 266 MHz PowerPC with 128 MB SDRAM onboard management processor • Provides optimized SATA (AMC.3)/PCI Express (AMC.1) interconnects between select sites • Fully RoHS and WEEE compliant

www.pt.com

Surf Communication Solutions

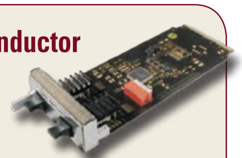


SurfRider/AMC **RSC No: 30200**

The SurfRider/AMC is a fully integrated full-/half-height RoHS-compliant AdvancedMC DSP resource board • Provides heavy-duty processing capabilities for developers of telecom, military, medical, and other processing-intensive applications • Modular design supports up to eight DSPs of various types • Coupled with Surf's patent-pending Open Framework design, which allows integration of user-defined and proprietary algorithms • Supports Surf's telecom-ready media processing software, which provides extensive audio, video, fax, and modem processing capabilities

www.surf-com.com

Zarlink Semiconductor



ZLE60400
RSC No: 32257

AdvancedMC optical extender card for Serial RapidIO • Zarlink PFOM Technology • ZLE60400 AdvancedMC optical extender card integrates two ZL60304 four-port optical transceivers • Interoperability with RapidIO 25 Gbps total bandwidth • JTAG interface • MMC control for IMPI • 12 Vdc power requirement, local power option for standalone operation • Half/full height, single-width size • AdvancedMC slot (180 mm x 74 mm), weighs just 425 g • Standard operating temperature of 0 °C to 50 °C, extended operating temperature available • Standards compliance with AMC.0, AMC.1, AMC.4, and RoHS-5

www.zarlink.com

Concurrent Technologies

Pentium M AdvancedMC Module
RSC No: 31278

PrAMC/33x single-width full-height AdvancedMC • 2.0 GHz Intel Pentium M 760, the E7520 server chipset • Up to 2 GB of soldered-in (for max. MTBF) DDR2-400 ECC RAM • 533 MHz Front Side Bus • Three x8 PCI Express links at up to 4 GBps per link • Two USB 2.0 ports • Two RS-232 ports • Two 1 Gbps Ethernet ports • Two SATA ports • The board is compliant with AMC.1 (PCI Express), AMC.2 (Gigabit Ethernet), and AMC.3 (Serial ATA150) • 7.1" x 2.9" (180.6 mm x 73.5 mm) • Operates over a commercial temperature range

www.gocct.com

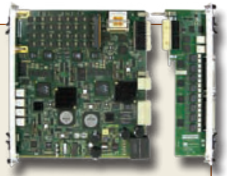
AudioCodes

TP-6310/T3 **RSC No: 29796**

A CompactPCI VoIP media gateway board • 2,016 voice/fax independent multiple LBR channels • Up to 3xT3 PSTN interfaces • Standard control: SIP, MEGACO • Complete media gateway on a blade • G.168 compliant echo cancellation • Real-time fax over IP/T.38 • PSTN signaling: CAS, ISDN PRI, and SS7 layer 3 termination • Tone detection and generation (MF, DTMF, RFC 2833) • SIGTRAN IUA, M2UA, M3UA over SCTP • Dual redundant 10/100/1000BASE-T interfaces, PICMG 2.16 compliant

www.audiocodes.com

NMS Communications Corporation



MG 7000A **RSC No: 32169**

The MG 7000A is an AdvancedTCA blade, providing a single-slot solution for flexible media processing in network-based telecom solutions • Up to 17,024 DSP MIPS and 480 "universal" ports, each supporting IVR, conferencing, and VoIP in a single slot • 16 T1/E1/J1 interface on rear transition module • Supports AdvancedTCA 3.1 Gigabit Ethernet switch fabric • Supports popular vocoders: G.711, G.723.1, G.726, G.729A/B, AMR • Full support for IPMB chassis management bus • Onboard CompactFlash for prompt storage

www.nmscommunications.com

Octasic

OCT9360 **RSC No: 32214**

VoIP media gateway modules • High channel density • Low power consumption • Scalable and future-proof • Accelerates time to market • Modules for gateways requiring low-bit-rate codecs (G.729/G.723.1 and others) or fax relay • 672 or 1,008 voice channels • G.168-2002 echo canceller • 128 ms tail on all channels • Low bit rate compression (G.729, G.723.1) supported • ADPCM compression/decompression of voice streams • Tone detection includes DTMF, R1/R2 signaling and 2100 Hz fax/modem tones • Packet Loss Concealment (PLC) • T.38 fax

www.octasic.com

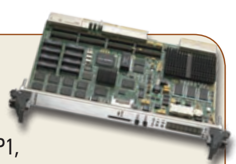
Telesoft Technologies

OKEFORD Switches **RSC No: 22023**

Family of VoIP gateways, programmable switches, protocol converters, service nodes, SSPs, STPs, IVRs, and conference bridges • Deployed globally since 1994 • Over 800 systems installed by more than 35 operators in over 80 countries • Single OKEFORD can act as a service node, a conference bridge, a programmable switch, and a protocol converter • May be deployed as a protocol converter with STP capabilities • Powerful functionality • Small footprint • Performance, reliability, and cost-effectiveness suit wide range of applications • OKEFORD family variants include: OKEFORD Signaling Transfer Point, STP, OKEFORD DPNSS to SIP and QSIG to SIP Gateways,OKEFORD ISUP to SIP Gateway, OKEFORD Protocol Converter, OKEFORD Intelligent Peripheral

www.telesoft-technologies.com

TelcoBridges



TB640-DS3 **RSC No: 31199**

Up to 3 channelized DS3 interfaces (or one OC3/STM-1) • SS7 on the blade (MTP1, MTP2, MTP3, ISUP, TCAP) – 1,000+ calls/sec • SS7, ISDN, CAS simultaneously – any protocol, any trunk, anytime • Add-on VoIP mezzanine (up to 2,422 channels), 128 ms G.768 echo cancellation • Simultaneous IVR on all channels (tone detection/generation, play/record, 132 participant conferencing) • Self-booting, hot swap, hot insertion – no CompactPCI CPU needed • Host-agnostic message-based API • Scalable and perfectly nonblocking up to 48 DS3s (32,265 DS0s)

www.telcobridges.com

Atmel Corporation

AT76C902
RSC No: 31622

A second generation Voice over IP (VoIP) chip, designed for 802.11a/g wireless VoIP applications • ARM946 processor for VoIP call control, authentication and signaling functions, and two subsystems – an ARM7and 802.11a/g Media Access Controller (MAC) that implements the 802.11a/g protocols, and a TEAK TeakDSPCore and integrated voice codec for voice processing function • Supports Wi-Fi Multimedia (WMM) and WMM Power Save modes • By supporting U-APSD and Scheduled APSD (S-APSD), solutions based on Atmel's AT76C902 have talk times of over six hours and stand-by times of over 220 hours on a 900 mA battery

www.atmel.com

SPIRIT DSP

TeamSpirit Mobile **RSC No: 32171**

Voice and video engine delivers high quality real-time voice and video over IP and 3G networks • Mobile OEMs can open new mass market for devices with video telephony • Compact voice engine for 200 MHz processors • Smallest video footprint with up to 10 fps for real-time video-call on 200 MHz processor • Longer battery life due to low MIPS consumption • Real-time network optimization to enhance voice quality by handling networks impairments such as varying delay (jitter) and packet loss • Full duplex mode – call participants can talk simultaneously without any distortions or breaks • Dynamical adjustment of video codec's resource consumption to prevent CPU overload and sophisticated speech enhancement algorithms to provide the highest voice quality • Voice/video synchronization and voice+video conferencing capability

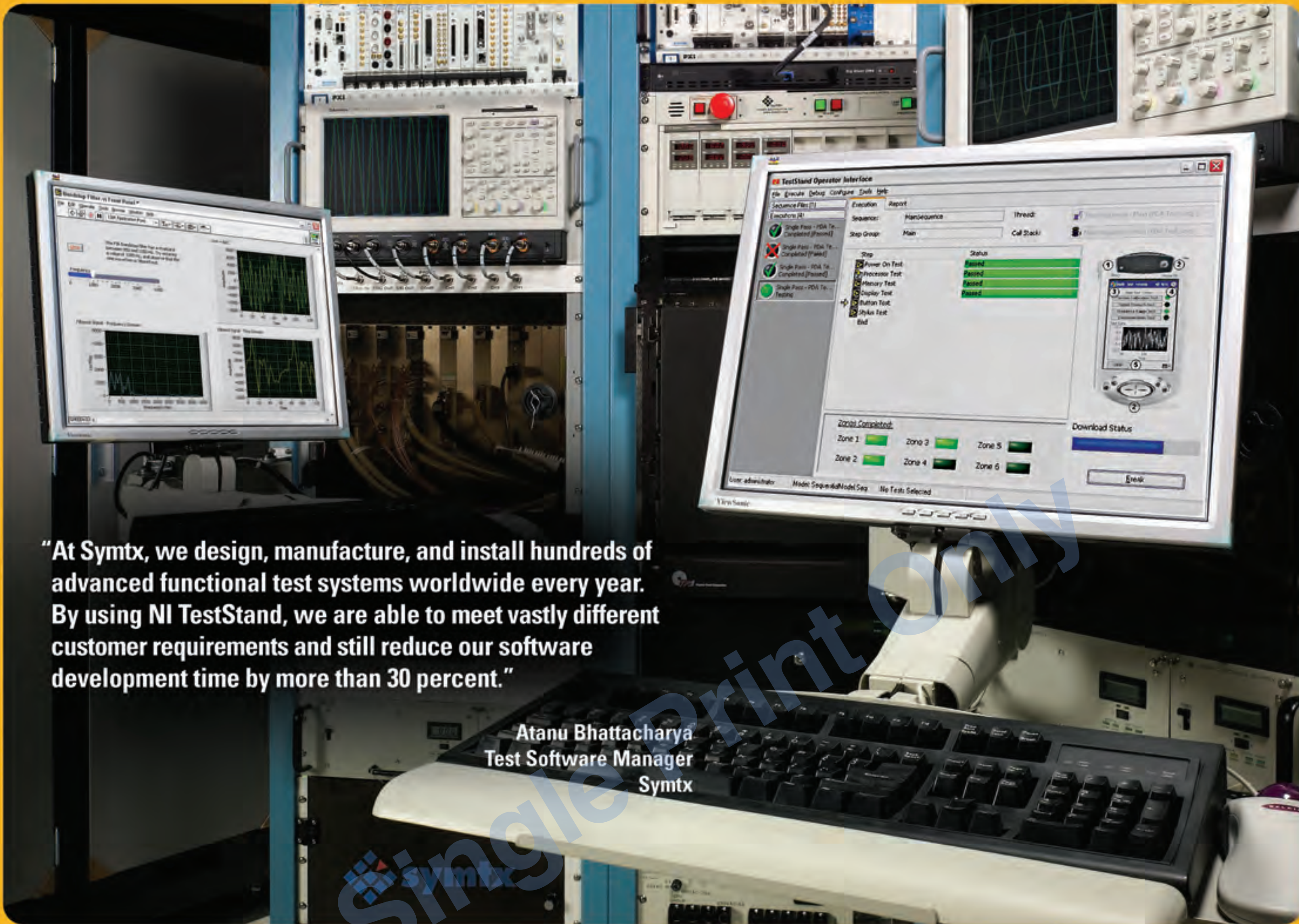
www.spiritdsp.com

Signalogic

Asterisk VoIP Card
RSC No. 31948

VoIP card for IP PBX systems • SigC5561 card highlights include up to 2,304 G.711 channels, 1,152 G.729AB or iLBC channels, and/or 864 G.723 or GSM-AMR channels • Configurable echo cancellation, VoIP, and transcoding operation • Each VoIP channel independently configurable for echo cancellation, voice codec, and other parameters • Optional WinPath 7x7 network processor and direct GbE and 10/100 network RJ-45 connections

www.signalogic.com



NI TestStand – The Industry Standard in Test Management Software

NI TestStand is a ready-to-run test management environment from National Instruments for automating your test and validation systems. With NI TestStand you can:

- Develop, manage, and automate your test sequences
- Simplify your maintenance through a modular, fully customizable test-system framework
- Leverage toolkits and add-ons from NI TestStand product and solution partners
- Execute test modules written in any programming language
- Specify sequence flow, reporting, database logging, and connectivity to enterprise systems
- Maximize test throughput with built-in parallel and batch execution and synchronization

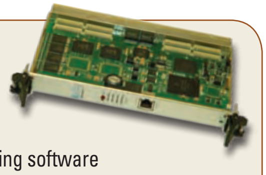
To learn how Symtx and other electronic manufacturers are accelerating development and reducing costs, visit **ni.com/teststand**.

(800) 891-8841

NATIONAL INSTRUMENTS™

RSC# 41 @ www.compactpci-systems.com/rsc

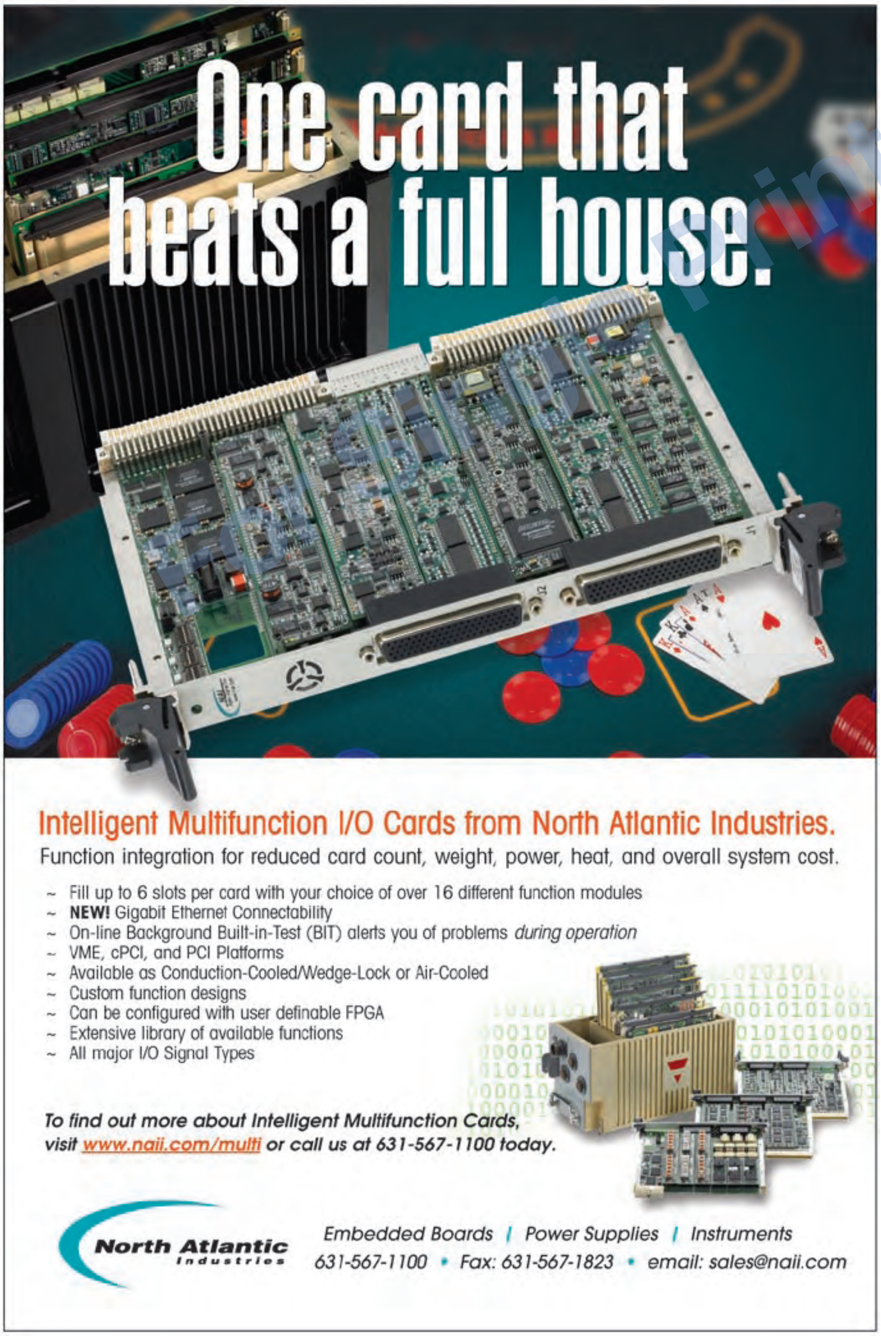
Voiceboard Corporation



MediaPro Access **RSC No: 31955**

MediaPro Access provides 16 T1/E1/J1 interfaces, PICMG 2.16, broadband network interface board with a board array of VoIP, fax, modem, and signaling software libraries • Terminates 16 software selectable T1/E1/J1 or dual software selectable T3/E3 network interfaces • Supports channelized or unchannelized data on T1/E1 or T3/E3 • Hot swap 32/64 bit 33 MHz CompactPCI bus • Dual PICMG 2.5 H.110 controllers • Supports 64 links of SS7 ISUP/TUP/TCAP/MAP • Optional 2,048 port HDLC controller • Multiplex and demultiplex T1/E1 and T3/E3 to channelized DS0 • Dual 1 GB plus dual 10/100BASE-T Ethernet ports • Customer programmable 350 MHz PowerPC 750 processor option with embedded VxWorks or LINUX OS

www.voiceboard.com



RSC# 42 @ www.compactpci-systems.com/rsc

Octasic

OCT9620 **RSC No: 32213**

VoIP media gateway modules • High channel density • Low cost per channel • Low power consumption • Optimized feature set • Scalable and future-proof • Accelerates time to market for G.711/ADPCM gateway designs • 512 or 1,008 voice channels • G.168-2002 echo canceller • 128 ms tail on all channels • Extensive in-band tone detection and generation capabilities • Tone detection includes DTMF, R1/R2 signaling, and 2100 Hz fax/modem tones • Silence suppression with spectral comfort noise • Jitter buffer and Packet Loss Concealment (PLC) • ADPCM compression/decompression of voice streams • Integration with MGCP and MEGACO H.246

www.octasic.com

Versatel Networks

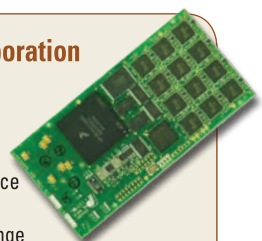
IQ4000
RSC No. 30454

Built on a 12U 16-slot CompactPCI chassis that can host VoIP, T1, and E1 solutions • 512 channels on each card • SIP or H.323 signaling • T.38 fax relay • G.711, G.723, G.716, and G.729 codecs • RFC2833 (DTMF over RTP) • 64 msec echo tail • VAD/CNG • Up to 170 conferences on each card

www.versatelnetworks.com

Voiceboard Corporation

PTMC41
RSC No: 32204



PTMC41, a 240-port PTMC 2.15 DSP resource board, supported by Voiceboard's broad range of off-the-shelf communications and VoIP media gateway software • DSP software libraries available for the PTMC41 include VoIP, conferencing (64 to 1,024 party), telephony functions, fax, modems, vocoders, and record/play resources • DSP Software Development Kit (SDK) including commonly needed telephony functions • Will work with CPU, carrier board, or custom board that supports industry standard PICMG 2.15 PTMC specifications • Provides TEM's the benefit of reducing their design risk, cost of development, manpower resources, and time-to-market • Software support for the PowerPC includes a fully featured IP stack, DSP resource manager, flash file manager, Web server, and encryption software

www.voiceboard.com


AdvancedTCA
μTCA
3,125 Gbit/s
10 Gbit/s
Tbit/s

Carlo Gavazzi Computing Solutions

6862 Series 1U MicroTCA Starter Kit **RSC No: 25191**

A complete AdvancedMC and MicroTCA development system that provides engineers with a cost-effective tool to aid in the design, development, and test of AdvancedMCs and MicroTCA systems • 1.75-inch (1U) (H) x 10.3-inch (W) x 7.7-inch (D) • MicroTCA backplane supports AMC.0, AMC.1, AMC.2, AMC.3, AMC.4 • IPMI system manager creates a MicroTCA-like environment • Integrated air filter, fan, and front replaceable fan tray • External 100-240 Vac to 48 Vdc power supply included • Utilizes CorEdge Networks technology

www.gavazzi-computing.com

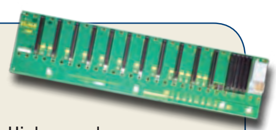
CorEdge Networks

CEN-MCHv3.0 **RSC No: 32252**

MicroTCA Carrier Hub • IPMI, clock and networking/fabric functions needed to meet your MicroTCA application requirements • Full CorEdge Networks MicroTCA Carrier Management Controller (CEN-MCMC) IPMI software suite that has been tested and verified in numerous open interoperability workshops • Supports multiple fabrics including 1 Gigabit Ethernet, SATA/SAS, PCI Express, Serial RapidIO, and 10 Gigabit Ethernet • Supports multiple clock configurations including 100 MHz spread-spectrum for PCI Express; 8 kHz and 19.44 MHz for Telco; and 1PPS GPS and 30.72 MHz for WiMAX • True multivendor support verified with the largest set of AdvancedMC's and MicroTCA chassis suppliers in the industry • CEN-MCH works seamlessly with CorEdge Networks MicroTCA Power Module (CEN-MPWR) to provide a full MicroTCA management, clocking, networking, and power solution • CEN-MCH and Power Modules work seamlessly in the CorEdge Networks PicoTCA (CEN-PICO) family of expansion systems

www.coredgenetworks.com

ELMA Bustronic Corporation



14-Slot MicroTCA **RSC No: 31630**

14-slot MicroTCA backplane • Complies to MicroTCA.0 Specification Rev 1.0 • High-speed connector up to 6.25 Gbps • Slot to slot aggregate bandwidth of 5,000 MBps • 3U • Single star topology • 14 slots: 12 AdvancedMC, 1 MCH, 1 Power (all single-width/full-size) • Other versions available in various configurations: Half-height, full-height, single-width, full-width • Modular and serviceable • Standard shelf management • MicroTCA Carrier Hub

www.elmabustronic.com

ELMA Electronic

CAP002484 **RSC No: 32216**

4U MicroTCA enclosure • Front-to-rear cooling • 14-slot single star backplane • Chassis compliant to the MicroTCA.0 Rev 1.0 specification • The unit has slots for 12 AdvancedMC modules, 1 MicroTCA Carrier Hub (MCH), and 1 power module • Chassis has high EMC shielding and a superior airflow through the card cage due to the implementation of honeycomb filter structures

www.elma.com

ELMA Electronic

MicroTCA 4U System **RSC No: 31272**

19" rack-mount, compliant to PICMG MicroTCA 1.0 • Single star backplane • Accepts 12 AdvancedMC modules • Accepts 1 power module 75 mm high x 6HP wide • Accepts 1 MCH module 75 mm high x 6HP wide with four tongue connector • Redundant clock architecture • Integrated in a 4U subrack system • Connections for two cooling units • Front air intake, rear air exhaust, fixed fans below card cage, and cable management tray • EMC shielding and a superior air flow through the card cage due to the implementation of honeycomb structures

www.elma.com

Hybricon Corp.

Model: Ruggedized MicroTCA
RSC No: 32235

Full ATR tall long chassis 10.5" (W) x 10.625" (H) x 19.62" (D) with front to rear airflow • Shock Mounted MicroTCA card cage for rugged environments • MIL-STD-461 EMI containment • Fully EMI gasketed • Top load MicroTCA/AdvancedMC cards • MicroTCA card cage supports a front 150 mm section and rear 75 mm section, with air flowing through the two series front to back • AC/DC front end power supply supporting 110/220 VAC operation with 48 Vdc output to DC MicroTCA power module • Shock-mount MicroTCA card cage inside the outer enclosure • 150 mm front row • 3 full-size double-width (150 mm) slots for 150 mm AdvancedMC modules • 2 full size double-width slots with conversion module to convert to (2) single width slots • 75 mm rear row 2 full size single width (75 mm) slots for 1 DC or AC MicroTCA power module • (1) Compact single width (75 mm) AdvancedMC slot (accessible only with DC power supply) • 1 full size single width (75 mm) slot for MicroTCA carrier Hub (MCH) • 4 compact single width (75 mm) AdvancedMC slots • Designed to cool 80 W per double-width full-eight slot and 40 W per single-width, full-height slot at 10,000 feet altitude

www.hybricon.com

Motorola Inc., Embedded Communications Computing

Centellis 1000
RSC No: 32106

MicroTCA communications servers provide highly integrated and verified hardware and software components • 11-slot MicroTCA shelf provides scalable, embedded communications computing system • 19" (483 mm) wide, 7" (178 mm) high, 9.3" (237 mm) deep shelf with front-only I/O, and 23" rack-mount option • 600 W AC or -48 Vdc power entry modules support full complement of AdvancedMCs • Redundant DC power entry modules, hot-swappable AdvancedMCs, and an easy-to-service design • MicroTCA Carrier Hub (MCH) combines shelf management, clocking, and fabric switching in a single module, maximizing payload capacity • GbE backplane fabric with optional PCI Express secondary fabric

www.motorola.com/computing

Interphase Corporation

iSPAN 3632 AMC

RSC No: 30105

Breakthrough features and channel density for next-generation media gateways, basestation controllers, and radio network controllers • Quad-Port channelized single-width, single-height module OC-3/STM-1 interface processor used to support integration with TDM telecom interfaces in the network • Support for DSO channels and subrate processing • Support for subrate flows at 8, 16, and 32 KBps • I-TDM/SFP processing for up to 8,064 DSO channels: Up to 100 iTDM/SFP flows • Up to 512 DSO channels per flow • Gigabit Ethernet interface to carrier • Designed for RoHS • MicroTCA ready

www.interphase.com

Rittal Corporation

AdvancedTCA Enclosures

RSC No: 30136

Rittal incorporates innovative components to produce reliably available systems up to Level 5 for AdvancedTCA and MicroTCA • Everything is fully assembled, ready to run, and individually configured • And the same naturally applies equally for CompactPCI, VME, and VME64x • Case solutions in 5U, 12U, 13U, or cube design • Climate control concepts up to 200 W/board and more • High-speed backplanes up to 10 Gbps variable

www.kaparel.com

Molex

MicroTCA Connector

RSC No: 32236

10 Gbps edge card connector for MicroTCA backplanes • Press-fit for ease of assembly and repair • Stitched contact design is amenable to high-speed connector assembly, reducing cost and offering high capacity • Connector and footprint design optimized for 10 Gbps performance • Molex offers populated back-planes as well • No need for mounting pegs, freeing up this area for routing channels under the connector • Pin spacing suitable for 2 pair routing channels • Flat rock press-in requires no special tooling

www.molex.com

Molex

µTCA Backplane **RSC No: 32234**

Fully redundant 10 Gbps MicroTCA backplane • 10 Gbps performance on each high speed pair • Press fit connectors for ease of assembly and repair • 12 payload slots (10 full height or 8 full height + 4 compact slots) • 18 layers • Redundant power supply and MCH connections • All fabrics and clocks fully wired

www.molex.com

Molex

µTCA Development Chassis **RSC No: 32238**

Development chassis with the Molex MicroTCA backplane and connectors • Small 4U chassis suitable for desktop or benchtop use • (7" x 17.25" x 10.63") (178 mm x 438 mm x 270 mm) • Cooling air enters from all sides, minimizing the space required for fans • Configured for single wide AdvancedMC modules • Redundant power and MCH slots • 18 layer backplane for low cost • 10 Gbps speed per differential pair • AC-DC power supply on rear of chassis can accept 120 V or 240 V input • Supports 1200 W – delivers 48 V to connectors on the front of the chassis • 12 payload slots (10 full height, or 8 full height + 4 compact slots) • Removable fan tray has 10 high performance 12 V fans for a uniform, turbulent airflow in all slots

www.molex.com

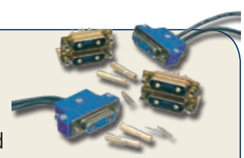
N.A.T. GmbH

NAT-MCH **RSC No: 32200**

MicroTCA Carrier Hub • Single-width double-height Advanced Mezzanine Card • Central management and data switching entity for all MicroTCA systems • Base module and numerous optional daughter cards which can be mounted on the base module • MicroTCA.0 R1.0 compliant • Delivers switching and hub functionality for the various system fabrics as defined in the AMC.x standard series, such as Gigabit Ethernet, PCI Express, Serial RapidIO, or Serial Attached SCSI (SAS) • Can also provide a centralized clock distribution to all AdvancedMCs in the system • Freescale ColdFire at core frequency of 200 MHz • 32 MB SDRAM and 16 MB flash memory • Linux operating system • Layer 2, nonblocking, low-latency Gigabit Ethernet switch, supporting VPN as well as a port based rate control

www.nateurope.com

Positronic Industries



QB Series **RSC No: 31802**

Power connector for use in MicroTCA power modules for power input • Board mount connectors for power modules, and cable connectors for bringing power to modules • Meets requirements of the MicroTCA Specification for 48 V and 24 V systems

www.connectpositronic.com

SANBlaze Technology

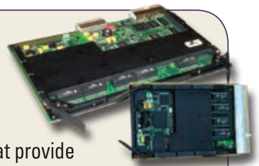
SB-AMC-HD **RSC No: 25541**

The SB-AMC-HD module is a drive carrier module for AdvancedTCA or MicroTCA systems • Configured with either one 2.5 inch SATA or one SFF SAS drive • AdvancedMC hard drive module • Support for SATA or SAS drives • SAS storage options of 36G or 73G • SATA options up to 100G • Extended duty drive options • Integrated IPMI • RoHS compliant

www.sanblaze.com

AMC
ADVANCED MEZZANINE CARD
XTECH
CQI
CONTINUOUS QUALITY IMPROVEMENT
ISO 9001 2000
EXTRUSION TECHNOLOGY, LLC
80 TRIM WAY
RANDOLPH, MA 02368 USA
Tel: (781) 963-7200
Fax: (781) 963-7203
WWW.XTECH-OUTSIDE.COM

ACT/Technico



Ethernet Switches
RSC No: 30415

Ethernet switches that provide up to 24 ports 10/100 (Fast) or 10/100/1000 (GbE) • Solutions based on VMEbus, VITA 31.1, PICMG 2.16 (cPSB), and CompactPCI platforms • Extended temperature and conduction-cooled versions for rugged environments • Configurable, fully managed (Layer 3), wire-speed, and unmanaged versions • Flexible management tools, such as user-defined, built-in tests • LED and thermal sensor for easy network monitoring

www.acttechnico.com

ADLINK Technology

aTCA-3110
RSC No: 30787

An AdvancedTCA hub switch board • Supports PICMG 3.1 base interface for AdvancedTCA shelves up to 14 slots (2 hub slots and 12 node slots) • Base interface provides 1000BASE-T Ethernet connections between the hub slot and each node slot • Eight tri-speed 1000/100/10BASE-T external uplink connections are provided on the front panel for easy access to the base interface • Onboard Ethernet switch supports full speed nonblocking throughput on all ports • Hardware switching of Layer 2 or Layer 3 packets is also supported

www.adlinktech.com

Advantech eAutomation Group

EKI-6538
RSC No: 31912

Industrial Ethernet Switches for mission-critical plant floor applications • Eight 10/100BASE-TX Ethernet ports • Wide dual power input (10 Vdc to 48 Vdc) • Wide operating temperature (0 °C to 60 °C) • Rugged design, and multiple mounting options • Efficient network traffic management, easy traffic diagnostics, and monitoring • Virtual LAN segmentation • Security enhancements make the EKI-6538 smarter than unmanaged switches • QoS function ensures important data is delivered consistently and predictably • Supports Layer 2 802.1p Priority Queue control to prioritize network packets • Classification of user data priorities can be based on a Priority Queue data packet • The port trunking function combines the bandwidth of multiple ports together to create multilink load sharing and aggregated bandwidths to a server or network backbone

www.eAutomationPro.com

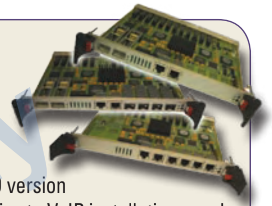
Diversified Technology

AdvancedTCA Switch **RSC No: 32146**

The ATS1160 Hub Board is an AdvancedTCA 3.0 and 3.1 Option 4 switch with support for high availability • Separate control plane switching, data switching, and storage • 24 port Gigabit Ethernet base fabric L2/L3 switch • 24 port Gigabit Ethernet expansion fabric L2/L3 switch • Fully managed solution with SNMP, CLI, Web interface, and Telnet/SSH • Wire-speed nonblocking performance on both switches • High availability through redundant hub and shelf manager support • Rapid Spanning Tree support

www.atcatogo.com

Kontron



CP6923 GbE Switch **RSC No: 32256**

6U CompactPCI Gigabit Ethernet Switch, PICMG 2.16 compliant • Leading edge technology based on BCM5650X chip • 24x Gigabit Ethernet ports • Non-blocking Layer 2 and 3 switching and routing • Copper, optical, rear I/O version • Hot swap, IPMI • Fully managed • Comprehensive firmware package • Applies to VoIP installations such as call servers, media gateways, and trunking gateways in wireline and wireless networks, as well as VoIP systems in enterprise networks with high demands on performance

www.kontron.com

Performance Technologies

ATC6640 **RSC No: 31114**

Base-fabric Gb/10 Gigabit Ethernet switch • Fully utilizes all the advanced capabilities of the PICMG 3.0/3.1 specifications • Two completely isolated, individually managed switches • Base: 24 10/100/1000BASE-T plus two 10 Gigabit CX-4 Ethernet ports • Fabric: 20 1 Gb/10 Gigabit Ethernet ports • Wire-speed, nonblocking • IPv4/IPv6 switching and routing • Base: 96 Gbps switching speed • Fabric: 400 Gbps switching speed • Dual AdvancedMC sites • Optional onboard shelf management module • Flexible uplink and RTM options • Real-time, continuous integrity checks • Rapid Spanning Tree, link aggregation, VRRP, and jumbo frame support • Advanced fast filter processor for wire-speed Layer 2-7 packet classification and filtering • LUA script language • Fully RoHS and WEEE compliant

www.pt.com

PLX Technology

PCIe Switches **RSC No: 30209**

Offers highly flexible port configurations allowing optimum use of available lanes and ports • 4 to 8 ports with flexible configurations including x1, x2, x4, x8, and x16 • Provides end-to-end packet integrity, lane reversal, polarity reversal, programmable outputs, and hot plug • PEX 8508, 8517, and 8518 offer low packet cut-through latency of 150 ns and fully nonblocking architecture • Offers nontransparent bridge port for dual-host and two virtual channels for Quality of Service applications • All ExpressLane devices are compliant with the PCI-SIG PCI Express specifications • Fully nonblocking switches • Pin-compatible paths to next-generation products (higher performance and lower cost)

www.plxtech.com

Radstone Embedded Computing

GS24 **RSC No: 32203**

Fully rugged, fully managed, standalone Gigabit Ethernet switch • Twenty-four 10/100/1000 Mbps Ethernet ports • Aimed at out-of-the-chassis applications – the networking of multiple subsystems, for example – the GS24 offers IPv6 traffic policing and Quality of Service (QoS) functionality such as guaranteed bandwidth allocation and prioritization • Connection to the light weight, space-efficient, conduction-cooled GS24 is via the rugged front panel connectors, which meet MIL-STD-810F requirements for humidity, salt spray, and dust • Front panel allows customization to accommodate varying connector types including optical connectors when the optically expanded variant is used

www.radstone.com

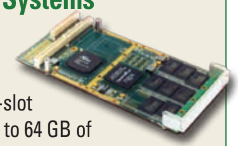
Acromag

PMC-LX/SX
RSC No: 31602

New PMC modules combine the power of a configurable Virtex-4 FPGA with interchangeable digital I/O front-ends. • Customizable FPGA (Xilinx Virtex-4 XC4VLX40/60) with up to 60K logic cells and 64 XtremeDSP slices • Supports both front and rear I/O • Plug-in I/O modules are available for front mezzanine • 64 I/O lines supported with direct connection to FPGA via rear (J4) connector • FPGA code loads from PCI bus or flash memory • 256K x 36-bit dual-ported SRAM

www.acromag.com

Aitech Defense Systems

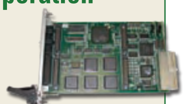


M222 PMC
RSC No: 31173

A high density, single-slot PMC that provides up to 64 GB of NAND flash memory in two banks • Provides a sustained data transfer rate of up to 40 MBps • Low power consumption of less than 7 W • Designed for high-speed read, write, and erase performance as well as to resist shock and vibration • Available in commercial, rugged, and military grade configurations • Aitech Flash Memory Manager (FMM) software package automatically treats the Flash memory as the system's disk drive and provides RTOS support • Automatic wear leveling to ensure that write-erase cycles are uniformly balanced across the entire device, preventing any one block from excessive write-erase cycles • Features a high performance, flexible, onboard, FPGA-based Flash controller providing "write ahead" buffers for write/erase operations, increasing data throughput • Available in forced air-cooled and standard ANSI/VITA 20 conduction-cooled mechanical formats • Connects and takes all power from the CompactPCI, VMEbus, or PCI base board

www.rugged.com

Alphi Technology Corporation



CPCI-6713B-IPC
RSC No: 32201

The CPCI-6713B-IPC module is a 3U DSP based dual Industry Pack carrier • Suits applications that require localized data processing and up to 100 I/O pins • XP and Linux support • 3U CompactPCI (2) Industry Pack sites • Front panel I/O • 33/66 PLX with VIO support • Local TI 6713B DSP • Standalone capability

www.alphitech.com

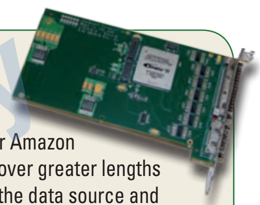
BWI

PMCDIO32CC **RSC No: 32060**

32-bit opto-isolated digital I/O conduction-cooled PMC module • Input range 5 V to 50 V • Input transient suppression • Input reverse polarity protection • Output switching 2 to 50 V at 500 mA • 200 V I/O to logic isolation • Input debounce period programmable between 2 μs and 250 μs • Interrupt on change-of-state, change-of-state double-sampled on debounce clock • Watchdog period programmable 125 ms to 2 sec • Watchdog interrupt • Watchdog tri-states outputs • Independent watchdog output • Rear I/O connections • Conforms to PMC standard P1386.1-2000, PCI Local Bus Specification Revision 2.2, ANSI VITA 200-2001 (R2005) conduction-cooled PMC standard • Conformally coated MIL-I-46058 type AR • Designed to meet FCC and CE requirements

www.bwi.com

Conduant Corporation



LVDS-16 **RSC No: 32013**

A Low Voltage Differential Signaling (LVDS) mezzanine board for its StreamStor Amazon high speed recording system • The LVDS interface board allows data to travel over greater lengths of copper wire while maintaining a clear and consistent data stream between the data source and recording device • 16 bit, 200 MHz data recording and playback interfaces for Conduant's premier StreamStor Amazon SATA Disk Controllers • It also provides improved data integrity and longer cable lengths when compared with typical TTL parallel interfaces • Can directly connect to customer FPGA devices over copper cables for data recording applications • It can serve as an alternative to the FPDP II interface already available for the StreamStor Amazon recorder at sustained data rates of 400 MBps

www.conduant.com

Dynamic Engineering

cPCIBPMC3U64ET **RSC No: 31459**

CompactPCI to PMC adapter/carrier converter card • Suitable for putting extended temperature PMCs into CompactPCI environments • Easy to use with a plug-and-play interface to the PMC • 3U 4HP CompactPCI • 1 PMC slot provided • CompactPCI bus can operate at 66 or 33 MHz • PMC must be 66 MHz capable for 66 MHz operation to work properly • User switch to allow or disable 66 MHz operation • Access width: Standard CompactPCI byte lanes supported for byte, word, and long access dependent on installed PMC • 64 or 32 bit operation supported • PMC card slot mounted to a universal 3U 4HP CompactPCI card • 3U card is wired for 64 bit PCI operation with pull-ups on the control lines to allow use in a 32 bit system • PMC bezel connector is mounted though the CompactPCI mounting bracket • Extended temperature design -40 °C to +85 °C standard • Conformal coating is an option • Software interface: PMC register definitions as defined by installed hardware • No software setup required by cPCIBPMC • Power: +5 V, +3.3 V, +12 V, -12 V, and VIO supplied to PMC

www.dyneng.com

Dynamic Engineering

CPCIBPMC6UET – cPCI to PMC Adapter / Carrier **RSC No: 32259**

6U 4HP CompactPCI • 2 PMC slots provided • Clocks: CompactPCI bus can operate at 66 or 33 MHz • PMC must be 66 MHz capable for 66 MHz operation to work properly • User switch to allow or disable 66 MHz operation • Standard CompactPCI byte lanes supported for byte, word, and long access dependent on installed PMC • 64- or 32-bit operation supported • Software interface: PMC register definitions as defined by installed hardware, no software set-up required • Interrupts: INTA, B, C, D routed to CompactPCI connector from PMCs. Slot 0 has A,B,C,D and slot 1 has B,C,D,A connections • Signal conditioning: Secondary side PCI signals are routed and terminated IAW the PCI specification • Power: +5 V, +3.3 V, +12 V, -12 V, and VIO supplied to PMC • VIO: Bridge primary PCI IO Voltage is set by the PCI backplane • Secondary side VIO is programmable by the user • Thermal: Low power design with minimal heat dissipation • Temperature range -40 °C to +85 °C

www.dyneng.com

Embedded Planet

EP8343M **RSC No: 30192**

Freescale MPC8343E PowerQUICC II Pro processor at up to 400 MHz • Integrated hardware security engine with support for DES, 3DES, MD-5, SHA-1, AES, and ARC-4 encryption algorithms • Configurable memory options with up to 256 MB DDR RAM, 256 MB of flash, and 1 MB of NVRAM • Dual Gigabit Ethernet connections using the MPC8343E's integrated controllers for high-speed network applications • High-speed USB 2.0 Host/Device/On-The-Go port using the MPC8343E's integrated controller • TransFlash connector supports up to 1 GB of removable storage in ultra small form factor • RS-232 serial port connector for direct module management and access to the operating system console • Onboard JTAG connection • Software support includes: PlanetCore Hardware Diagnostics, U-Boot Bootloader, Linux, INTEGRITY, and VxWorks BSPs • Can operate in both standalone mode as low-cost evaluation platform and as a PrPMC for use in CompactPCI applications

www.embeddedplanet.com

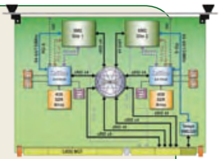
Sundance

SMT417 **RSC No: 32221**

Conduction cooled PMC/XMC card with 2 TI DSP at 1 GHz each and a Xilinx XC2VP50 FPGA and much memory • IEEE 1386 standard PMC form factor • High performance with two 1 GHz DSP and larger VP50 FPGA • Fast PCI-X interface and XMC • Supported by Diamond and PARS development software for multiprocessing • RocketIO RSL interfaces • XMC.2 connector per ANSI/VITA 42.0 (42.2 for x4 RapidIO compatible)

www.sundance.com

Micro Memory LLC



MM-1400

RSC No: 25216

Targeting streaming signal sensor applications such as Synthetic Aperture and Phased Array Radar, Signal Intelligence, Software Defined Radio, and semiconductor and medical imaging, CoSine-on-Othello combines System-on-Chip, CoSine, with the application optimized architectures of Othello VME carriers for switch fabrics • Primary DDR Capacity: 8 GB • CoSine Primary Device: FX140 • CoSine Companion Device: n/a • Format: VITA 46 • Application Specialization: Large memory • Block diagram: http://micromemory.com/images/Products/MM-1400D/MM-1400ver1-1.jpg

www.micromemory.com

Sponsored by: Pericom Semiconductor www.pericom.com – See page 76.

AP Labs

FS-1280 Rackmount Enclosure **RSC No: 30156**

19" (W) x 15.75" (H) x 18" (D); weight 85 lb • Front-load, rugged, hard-mount chassis single or dual 8 slot • Shock: MIL-STD-810, MIL-S-901D, Vibration: MIL-STD-167, EMI/RFI: MIL-STD-461 • Hinged front door for easy card access; removable peripheral carrier in 8-slot, single backplane version • Available with CompactPCI backplanes • Front-to-rear airflow

www.aplabs.com

Chomerics

PREMIER Conductive Thermoplastic **RSC No: 30566**

PREMIER conductive thermoplastic has a new engineered filler system for more effective EMI shielding, to replace metal or machined parts • Greater than 85 dB shielding effectiveness • High permeability (6.5) increases shielding effectiveness • Recyclable – conforms to WEEE EoVL TCO • Compliance – RoHS, Halogen free, EPA • Low density provides weight reduction up to 75% • UL 94 flammability rating of V-0 • High flexural strength and modulus • High tensile strength and modulus • Low through resistance down to 30 m

www.chomerics.com

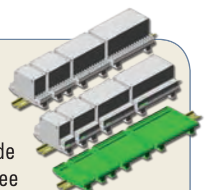
Creative Electronic Systems

CES Mission Computer Family **RSC No: 30050**

Ready-to-go platforms for rugged computer systems, including all of the hardware, software, and qualification requirements, all the way up to the application • Available in ATR and ARINC 600 form factors, using either VME or CompactPCI processing engines • Ruggedized air-cooled or conduction-cooled versions • From one to five slots for 6U or 3U boards • Hosts single or multiprocessor versions of the latest generation of CES real-time computers • Any combination of AFDX, MIL-STD-1553B, ARINC 429, CANbus, discrete, or analog avionic interfaces • Unique CES bandwidth control and data distribution logic • Advanced system monitoring unit • Complete software packages including BSPs, drivers, and APIs under LynxOS, VxWorks, and Integrity • Complete certifiable packages for DO-178B up to Level A

www.ces.ch

Gaurang Electronic Industries

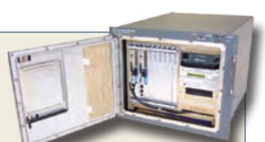


Universal Din Rail Enclosures / PCB Holders **RSC No: 32153**

Distinguished by their modular design and universal mounting in all three rails • Inside guides in all directions provides PCB mounting facility • Universal mounting in all three commercially available rails • EN 60 715 TH35, TH15, and G32 DIN rails • Modular construction enables ease in design and servicing • Enclosures inside: 70 x 60 mm x 35, 70,105,140 mm • PCBs: base PCB and auxiliary vertical and horizontal PCBs • PCB guides: Integral molded guides in all directions • Terminal option: Euro 5 mm pitch or fixed 3.75 mm pitch

www.gaurang.com

Macrolink



ML-1900 Series Puma **RSC No: 17296**

An 18/21-slot, convection-cooled electronic equipment enclosure • Rugged 19" COTS enclosure • Brazed 6061/T6 aluminum for extreme environments • Shock-isolated card cage and peripheral bay • 10 to 18 6U VME or CompactPCI slots • Universal AC or 28/48 DC input, 750 W to 1000 W power supply • Rapid access to peripherals • One to five fixed/removable peripherals • High-volume, filtered forced-air cooling • Designed in accordance to MIL-E-5400T • Meets JASA EMI/EMC shielding requirements

www.macrolink.com

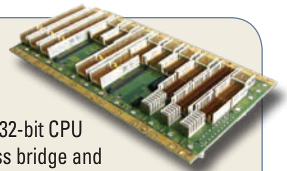
Omni Device

UniPlat-3000DS/GM
RSC No: 32131

12U, 14-slot AdvancedTCA shelf with 2 shelf managers, 3 fan trays, 2 PEMs, and dual star backplane or group full mesh backplane • Fully PICMG 3.0 compliant AdvancedTCA shelf • 12U height, 14 slots • Support dual star midplane, optionally grouped full mesh structure

www.omnidevice.com

Hartmann Elektronik



CPCI Express Evaluation backplane **RSC No: 32155**

CompactPCI Express evaluation backplane • Runs either with CompactPCI 32-bit CPU or with CompactPCI Express CPU • One CompactPCI to CompactPCI Express bridge and one CompactPCI Express to CompactPCI bridge • PICMG EXP.0 Revision 1.0 with Power Connector • PICMG 2.11 Rev. 1.0 (12 V = 16 A, 3.3 V = 96 A, 5 V = 64 A, 12 V = 2 A) • Power rails for high current input (20 A each screw) up to 190 A • ATX connector for additional power input (6 A each pin) • One CompactPCI Express system slot right with 4 links • One link to the switch slot, 1 link to type 1 slot, 1 link to type 2 slot, 1 link to CompactPCI bridge • One CompactPCI 32-bit system slot left with 3 legacy slots 32-bit and a bridge to the CompactPCI Express slots • One hybrid slot CompactPCI 32-bit and CompactPCI Express • One switch slot with 5 links

www.hartmann-elektronik.de

Mapsuka

4U Horizontal Platform **RSC No: 29928**

4U 8-slot, horizontal type, CompactPCI platform; custom design is available • Aluminum enclosure: 4U (H) x 84T (W) x 283 mm (D); Front cage: 8-slot, 6U x 160 mm; Rear I/O: 8-slot, 6U x 80 mm • 400 W ATX or 250 W CompactPCI power supplies • Option: 1 x 3.5" HDD and 1 x slim CD-ROM device holders • 6U 4-slot backplane conforms to PICMG 2.16 R1.0 • 33/66 MHz, 32/64 bit CI • Support hot swap feature of PICMG 2.1 R2.0, CompactPCI Packet Switching Backplane (CompactPCI/PSB) • VI/O are user selectable to +5 V or +3.3 V • All signal lines characteristic impedance are set to 65 Ohm • Physical interface at rates of 10, 100, or 1000 Mbps on a slot-by-slot basis • Support full-duplex bit rates of up to 2000 Mbps per slot

www.mapsuka.com.tw

Triple E

1U Microchassis **RSC No: 31501**

A 1U rugged microchassis • A pizza box-style microchassis for military, aerospace, commercial, and industrial harsh environment applications • Meets IEEE1101.10 and IEEE1101.11 mechanical requirements • Configured with VME64x, CompactPCI, or PICMG 2.16 backplane • Up to two 6U x 1.6 mm x 160 mm size boards in front and two 6U x 1.6 mm x 80 mm direct plug-in rear transition boards • 10.75 lbs • 19" rack-mount (L-R) x 1.73" high x 11.25" deep • 0.036" thick zinc plated steel for structural integrity, durable powder coat finish, and removable side walls • Patented all-extruded aluminum 901 Series card guide cluster • Protects boards from vibration damage • Maximum cooling airflow between slots • 3U, 300 W, PICMG 2.11 compliant power supply fits within the 1U rack aperture

www.tripleEase.com

Trenton Technology

BPX6620 **RSC No: 31294**

Server-class PCI Express backplane • 14-slot form factor of Trenton's BPX6620 backplane • Suitable for applications with a large number of PCI-X and universal PCI option cards • Supports a server-class PICMG 1.3 system host board • One x8 and one x4 PCI Express card slot • A total of ten PCI-X card slots support universal PCI option cards • Provides three x4 PCI Express links, each of which drives a PCI Express-to-Dual Channel PCI-X bridge chip • One bridge chip supports two 64-bit/133 MHz PCI-X channels to support the two 64-bit/133 MHz PCI-X card slots • The remaining two bridge chips provide a total of four 64-bit/66 MHz PCI-X channels that support eight 64-bit/66 MHz PCI-X option card slots

www.trentontechnology.com

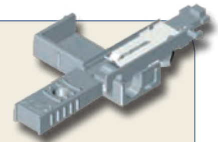
Omni Device

UniPlat-3005RM **RSC No: 32132**

Fully PICMG 3.0 compliant AdvancedTCA Shelf • 5U height, 5 slots • Support replicated mesh midplane • One fan tray with redundancy fans • Two redundant Power Entry Modules • 1+1 Shelf Managers

www.omnidevice.com

SOUTHCO



P7-M-802-000
RSC No: 32099

AdvancedMC module handle in mid-size • Also available in compact and full size • Durable die-cast construction with distinct detent action in three positions • Available in custom colors • Ergonomic, intuitive operation • Makes it easier for field technicians to remove and secure modules • The distinct detent action of our module handle provides a pronounced feel for added confidence in placing the handle in one of three hot swap/latching positions • Durable die-cast construction • Provides compact, yet substantial, mechanisms for long-life performance – even in frequently accessed applications • Custom handle colors • Use custom color powder-coated handles to enhance the aesthetics of your designs, or to color-code components for different functions • Global manufacturing and delivery • RoHS compliant hardware

www.southco.com

Leanpac

650-ATCA14DS **RSC No: 32033**

14-slot dual star specification • Two hub slots • Star connection carried out between each node slot through the base interface and fabric interface of the hub slots arranged at the center of the backplane • 18 layers • Low dielectric materials and strict differential impedance control for stable high-speed serial transmission channels

www.leanpac.com

SiliconSystems

SiliconDrive Secure
RSC No: 31296

High performance, high reliability, and multiyear product lifecycle benefits with a comprehensive suite of patented and patent-pending technologies that provide multiple security options to safeguard application data and software IP in embedded systems • Suitable for applications such as data recorders, wearable and field computers, military hardware, medical monitoring and diagnostic equipment, and POS systems • SiKey ties SiliconDrive Secure to a specific host and/or software IP • SiZone allows for the creation of data zones with different security parameters • SiProtect, software write protection for Read-only access • SiSecure, which requires a password for read/write access • SiSweep, an ultra-fast data erasure • SiPurge, for nonrecoverable data erasure • SiSMART to eliminate drive corruption • PowerArmo to forecast useful life

www.siliconsystems.com

BiRa Systems

4720/4720A/4730 cPCI High Voltage

RSC No: 32165

High voltage power supplies based on CompactPCI bus architecture • Voltage range is typically from -100 V to -5 kV • System hardware based upon industry standard CompactPCI/PXI • Current draw in a quiescent state is low (typically < 1 mA) • Computer remote control and monitoring using an IP Ethernet network with LABView • DC supplies should be modular with the modules supplying an array of voltage ranges (typically ±100 V to ±5 KV) • Individual modules are stable to 5% of the set value • Scalable in nature • Easy to maintain small robust design

www.bira.com

Power-One

CPA/CPD Series

RSC No: 32120

Series of hot-swap, CompactPCI AC-DC and DC-DC power supplies • Available in 3U/6U form factors and use a standard Positronic 47-pin connector • High density design in an industry standard package • Remote sense and active current share facilitate hot-swap use • Fully compliant to PICMG 2.11 • High-efficiency topology > 80% • Built-in ORing FETs for redundant applications • AC-DC models have Active Power Factor Correction

www.power-one.com

Digital Power

cPCI 300 Watt Power Supply **RSC No: 32258**

PICMG 2.11 compliant 300 W 3U CompactPCI Power series • High power density and efficiency • Unique dual converter topology • Up to 40 A can be drawn from the +3.3 Vdc output and 30 A from the +5 Vdc output at +55 °C operating ambient temperature • Suited for industrial, military/COTS applications • Cover either universal AC input with active power factor correction (PFC), 48 Vdc or 24 Vdc input • N+1 parallel-redundant operation; ORing MOSFETs to minimize heat dissipation • Active single-wire current share • Remote-sense • Over-temperature, overvoltage, and overcurrent protection • No minimum load • Power-good signal • Remote on/off control and front panel LED status indicators and full power operation with just 250 LFM airflow • High power density of 8.99 W/cubic • Synchronous rectification • Low profile magnetics • Surface mount assembly

www.digipwr.com

LV Power

LVDC200-350W3U1IPMI **RSC No: 32179**

CompactPCI power supply DC input 3U • 1 or 2 slot thickness • 200 W, 325 W, 350 W • With/without full IPMI implementation • High efficiency 85% • Three independent outputs • FCC Class B • Only 300 LFM airflow required for full power output at 55 °C • Active current share 10% • Full IPMI functionality • 2-year warranty • 36 Vdc to 72 Vdc input

www.lvpower.net

MGV Stromversorgungen

SPH613/SPH1013 Series **RSC No: 32089**

Slim power supplies for 600 W and 1,000 W • Installation width of 56 mm for 600 W and 66 mm for 1,000 W • Suitable for giving users extra space in their switching cabinets • Can be used for a full range of industrial applications, offer flexible fixings (DIN-rail or wall mounting) • Integral fan • Operate in any position at temperatures of up to +70 °C • Wide input range of 3x340 – 550 Vac • Suitable for both IT and delta networks • The SPH613 supplies a highly stable output of 24 V at 25 A and the SPH1013 24 V at 40 A • The output voltages can be adjusted between 23. 5 V and 28.5 V • The micro-controlled Advanced Power Boost, now enhanced by MGV, provides users with comfortable padding for additional short-term power requirements • Twice the level of output current (for example 40 A or 80 A) can be maintained for 2s – either in the start-up phase or during ongoing operation • For even more power, the supplies can be switched parallel

www.mgv.de

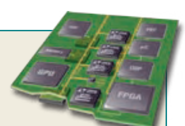
Molex

EMI Adapter **RSC No: 29792**

Allows for a common panel mounting hole and internal SC connector to be mated with an SC, ST, or FC connector on the opposite side • Suitable for routers, servers, and other telecommunications equipment, as well as storage servers, labs, and test equipment • Easy-to-remove alignment sleeve that offers quick access to clean the internally mated connector without disconnecting it from the adapter and without entering the enclosure, providing a safe and fast method to ensure proper optical performance • Available preconfigured or as individual components

www.molex.com

Linear Technology Corporation



µModule **RSC No: 32231**

Compact power supplies for FPGA based systems • 15 mm x 15 mm x 2.8 mm LGA with 15 °C/W θ_{JA} • Pb-Free (e4), RoHS compliant • Only CBULK required • 6 A, 10 A, 12 A, and current sharing up to 60 A

www.linear.com

ETXexpress Module with Intel® Pentium® M and Mobile Intel® 915GM Express Chipset

As the first member of the ADLINK ETXexpress family, the ETXexpress-IA533 uses low power Intel® Pentium® M processor 760 at 2.0GHz and the Mobile Intel® 915GM Express Chipset. Both the processor and chipset are part of the embedded Intel® Architecture that ensures a long production life for applications that need extended availability. The ETXexpress-IA533 supports dual channel DDR2 533MHz memory and comes with a single on-board Gigabit Ethernet port. In addition to the on-board integrated graphics, a Graphic PCI Express x16 slot is also available. The board connects up to four additional PCI Express x1 devices. The module has legacy support for 32-bit PCI and ISA through LPC.

For more info, go to:
www.adlinktech.com/products

Full-size Intel® Pentium® 4 (LGA775) Processor SBC

The new NuPRO-851DV has a high-computing capability. It supports an 800MHz FSB and Intel® Pentium® 4 (LGA775) processor with Hyper-Threading technology. It has a large communication bandwidth with two PCI Express x1 Gigabit Ethernet ports. It supports Serial ATA for high-speed storage, USB 2.0 and other generic features including VGA, COM, keyboard, mouse and hardware monitoring.

For more info, go to:
www.adlinktech.com/products

A Compact Multi-Application Computer with New CPU Options, and the Latest Chipset

The GEME-4000 offers multiple CPU choices and USB 2.0 connectors, LVDS support for display and DDR RAM in addition to the standard GEME features. The GEME-4000 comes with an Intel® Ultra Low Voltage Celeron® M 600MHz processor. They can be controlled from remote locations and run continuously in many critical applications such as machine tools and digital video capture. It also comes equipped with anti-vibration features.

For more info, go to:
www.adlinktech.com/products

High-Performance 3U CompactPCI Intel® Pentium® M / Intel® Celeron® M Processor SBC with Dual GbE on PCI Express

The cPCI-3915 CPU board is a 3U 4HP or 8HP system slot single-board computer with up to 2.0GHz for the Intel® Pentium® M CPU. This SBC is based on the Intel® 915GM chipset with 400 or 533 MHz FSB. One SO-DIMM socket carries up to 1GB 400/533 MHz non-ECC DDR2 RAM. The cPCI-3915 offers two Gigabit Ethernet ports, two RS-232 ports, one IDE ATA 100/66/33 port, one CompactFlash socket, two SATA-150 interfaces, quad USB 2.0, and a VGA/DVI interface. The Ethernet ports support PXE remote boot.

For more info, go to:
www.adlinktech.com/products

Choose From A Complete Line of AdvancedTCA Products

Two AdvancedTCA Processor Blades with Dual Intel® Xeon 800FSB

- PICMG 3.4 ATCA Advanced Switching Option 3
- Quad ASI x4 Fabric Interface Channels up to 5-Slot Full-Mesh Configuration, 32Gbps
- Dual Intel® 64-bit LV-Xeon 2.8GHz, 1MB L2 Cache, Hyper-Threading Processors
- Dual DDR2-400 REG/ECC Channels with 16GB max.

AdvancedTCA Base/Fabric Switch Blade with 10GbE Uplink Port

- 24-Port 10/100/1000BASE-T Base Interface: 12 Node-Slot, 8 Egress, 2 ShMC Ports, 1 Inter-Switch and 1 Control Plane Port
- 24-Port 1000BASE-BX Fabric Interface: 14 Node-Slot, PICMG 3.0 Option 1 Ports, 2 Egress and 8 RTM Ports
- Layer 2/3 Packet Switching and Routing
- Vitesse® VSC7310 GbE Switch-on-a-chip

5U Five-Slot AdvancedTCA Rackmount System

- 19" Rackmount, 15.3" Depth
- Five-Slot Full Mesh Topology Fabric Interface
- Five-Slot Standard Rear Transition Module
- Dual Bussed IPMB

Call us toll-free at (866) 4-ADLINK
or email info@adlinktech.com

PICMG

intel Communications Alliance Associate

ADLINK TECHNOLOGY INC.

www.adlinktech.com

RSC# 56 @ www.compactpci-systems.com/rsc

Power-One

Z-One Digital Power **RSC No: 32152**

I2C programmable Z-7000 POL converters integrate power management and conversion to meet challenges of AdvancedTCA applications, particularly monitoring, diagnostic, and fault prediction • I2C-programmable output voltage, tracking, sequencing, protections, and thresholds, and fault propagation • Each POL is capable of continuously monitoring and reporting its own voltage, current, and temperature • Input voltage range from 3 V to 14 V, output voltage range from 0.5 V to 5.5 V, output current from 7 A to 20 A • Digital current share for high current applications, frequency synchronization, and interleave • SMT-packages, both RoHS-5 and RoHS-6 compatible

www.power-one.com

Tundra Semiconductor Corporation

Tundra Tsi109 **RSC No: 31133**

The Tundra Tsi109 is an advanced host bridge for PowerPC processors that supports PCI-X, DDR2-400 SDRAM, Gigabit Ethernet, and flash • High performance host bridge offering best system performance-per-watt and best system performance-per-dollar • Power management features for processors and memory devices • 200 MHz 60x/MPX processor bus • Dual CPU support • Advanced pipeline architecture • DDR2 Memory Controller – up to 50% memory power savings compared to DDR • Integrated Clock Generator with optional Spread Spectrum capability • Designed for 200 MHz operation with only 8 PCB layers • Low latency nonblocking internal switch fabric • Pin compatible with Tsi108 • Target applications: printer controller board, Processor PMC base stations, media gateways • 2.5 W typical power consumption with all ports operating at maximum speed (3.8 W maximum) • DDR2 Memory Controller (up to 50% memory power savings compared to DDR)

www.tundra.com

SAE Power

PF1500-4801 **RSC No: 32164**

1U power supply designed specifically for AdvancedTCA high power applications • The power supply's 10.25" length is suitable for embedded applications • 1U x 3U form factor • 48 Vdc output at 1,500 W • I2C communication • Active PFC • RoHS compliant • Single wire active current share • N+1 or N+M redundancy • Two-year warranty • Temperature controlled fan • Scalable power platform • 800 W, 1000 W, 1,200 W, and 1,500 W all available in an identical form factor

www.saepower.com

TYCO Electronics Power Systems

PIM300 **RSC No: 32142**

PIM300 is a 300 W power input module designed to comply with the Advanced Telecom Computing Architecture (AdvancedTCA) specifications • Complete power solution for AdvancedTCA board per PICMG 3.0 • Hot-swap and in-rush control • Input undervoltage and overvoltage protections • Integrated EMI filter designed to meet CISPR class B limits • 8 W of isolated auxiliary power for IPM (3.3 V or 5 V) • 72 V charging current for holdup/bulk capacitors

www.power.tycoelectronics.com

THERMAL MANAGEMENT

New Age Fans

BFT192B **RSC No: 30102**

Provides an efficient method of cooling open architecture card cages on an individual basis • Low wattage, dual alarm, low noise, UL, patent pending • 2U high 19-inch rack-mount • Adjustable depth • Fire retardant, corrosion resistant • Individual 12 V power supply • Full set of accessories • Simple installation

www.newagefans.com

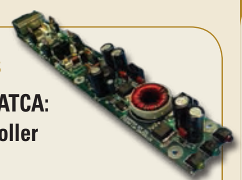
Optima Electronic Packaging Systems

AT Series **RSC No: 32217**

Series of vertical rack enclosures • Incorporate advanced features specifically designed to address the growing complexity of blade and server applications based on the AdvancedTCA form factor • Advanced cooling techniques to eliminate the heat build-up associated with the increasing heat density • Engineered cable management solutions to efficiently control the increasing density of I/O cabling • Removable side panels (quarter turns, slotted, or keyed) • Door gasket for environmental sealing • Modular base with options for fixed mount, levelers, or casters

www.optimaeps.com

Degree Controls



ProntoFlow Control-ATCA: Intelligent Fan Controller
RSC No: 30211

Real-time, IPMI-based selection of several fan control modes for synchronized, closed loop RPM control of 48 V fans • IPMI-based reconfiguration of alarm thresholds, fan control curve set points, access to fan speeds, and much more • Private, I2C based communication bus between fan trays for chassis that contain multiple fan trays • Fire response functionality to either reduce or increase fan speed, depending on chassis architecture needs • Multiple filter clog and maintenance schemes • Fan fail prediction and fan fail monitoring to ensure fan tray replacement occurs as fan performance degrades • Fully fault tolerant design • Handles -36 Vdc to -72 Vdc voltage input range • Also available for 24 V fans

www.degreec.com

CorEdge Networks

AMC Test Board
RSC No: 29896

Low cost, self-contained, engineering-friendly AdvancedMC test platform that can be used by HW/SW engineers for design, debug, and development and by manufacturing engineers as part of a manufacturing test plan • Support for one single-wide or doublewide AdvancedMC • One replaceable B+ AdvancedMC connector • 12 V power jack • Condensed CorEdge Networks platform-independent IPM-Controller to bring up the AdvancedMC • Exposed connections for redundant synchronization clocks 1, 2, 3 • RS-232 Ethernet to AdvancedMC • RS-232 to AdvancedMC • RS-232 to IPM-C

www.coredgenetworks.com

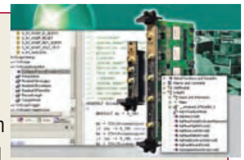
GOEPEL electronic

SFX-TAP4/CR
RSC No: 25254

SCANFLEX TAP transceiver (SFX transceiver), developed especially for integration in Flying Probe Testers (FPT) offering four parallel independent TAP as well as a set of additional resources and special functions • Compact transceiver with 4 fixed Test Access Ports (TAPs) • TAPs are voltage and impedance programmable • TAP read back function • 32-bit voltage programmable PIO • Built-In-Selftest for TAP • 2 analog 10-bit I/O, 3-bit static I/O, ADYCS II support • 1xSFX and 1xSFX/LS interface • 1 SFX slot, SFX cable 5 m • External power supply • 68 pin SCSI-3 style TAP interface

www.goepel.com

Acqiris



IVI Drivers **RSC No. 31945**

Class-compliant IVI drivers that provide a set of standard commands for a given class of instruments, simplifying programming and instrument swapping among data conversion products • Developed mainly for the ATE market, the drivers comply with IviScope Class (IVI-4.1) specifications • Designed to support typical oscilloscopes as well as common extended functionalities found in more complex data acquisition instruments, such as Synthetic Instrumentation (SI) • Drivers can be used in conjunction with the specifications outlined in the IVI-4.1 IviScope Waveform Measurement and IviScope Average Acquisition extension groups

www.acqiris.com

Mirabilis Design

VisualSim Architect **RSC No: 32186**

AdvancedTCA-specific simulation environment for the performance, architecture and power exploration to construct a validated and Executable Specification of the product • Graphical environment contains standard AdvancedTCA components of hardware and software • This includes switches, buses, processors, cache, memory, DMA, and RTOS • The modeling libraries are used to construct models of both the AdvancedTCA products and the networking environment around them • Over 2,500 statistics generators configured for latency, utilization, Quality of Service (QoS), throughput, instantaneous power consumption, cache activity, resource usage, and activity timing diagrams • Detailed models of the AdvancedTCA, CompactPCI, and other telecommunications blades. Servers, and cards can be designed • Enables users to construct a architecture model of the proposed system based on rough system diagrams and customer specification

www.mirabilisdesign.com

Nortel

Nortel VSE **RSC No: 32189**

The Nortel Versatile Service Engine (VSE) is a second-generation, AdvancedTCA compliant platform that meets the processing needs of innovative IP Multimedia Subsystem (IMS) • Up to a 50% increase in shelf density • Significant circuit pack commonality between platforms • "Flight recorder" capabilities that enable system restoration without data loss

www.nortel.com

Intel

3100 Chipset Development Kit **RSC No: 30777**

Platform for a variety of embedded and communications infrastructure applications • Support for the following processors: Intel Pentium M processor 745; (1.8 GHz) 2 MB L2 cache; Intel Pentium M processor Low Voltage 738 (1.4 GHz); 2 MB L2 cache; Intel Celeron M processor Ultra Low Voltage 373 (1.0 GHz) 512 KB L2 cache; Intel Celeron M processor 370 (1.5 GHz) 1 MB L2 Cache • 400 MHz front-side bus • Support for integrated Intel 3100 chipset • DDR2-400 MHz registered ECC for up to 4 GB of system memory • One onboard PCI ATI RAGE Mobility video chip (if onboard chip is not present, will include a video card kit) • LPC bus Super I/O controller • Support for USB 2.0 devices • Four USB ports; UHCI or EHCI configurations

www.intel.com

Objective Interface Systems

PCSexpress **RSC No: 32208**

A real-time communications software that provides securely separated communications channels between systems • Enables high-performance communications • Enables fault-tolerant Systems • Agile, secure network configuration • Application transparent

www.ois.com

OpenClovis

OpenClovis IDE **RSC No: 32136**

OpenClovis IDE is an integrated development environment designed to simplify and accelerate the development of application service platforms for the telecom marketplace • Integrated with AdvancedTCA and COTS systems • Enhances developer productivity • Reduces time-to-market • Ensures reusability of core development efforts • Offers platform-independent modeling and implementation • Increases development process consistency

www.openclovis.com

QNX Software Systems

QNX Multi-Core TDK **RSC No: 31075**

Comprehensive software foundation for multicore processors • Supports symmetric (SMP), asymmetric (AMP), and bound (BMP) multiprocessing • Only solution to support full spectrum of multiprocessing models: SMP, AMP, and BMP • SMP for transparent resource management, dynamic load balancing, and fast intercore messaging • AMP for full developer control and support of multicore systems based on multiple OSs • BMP combines scalability of SMP with developer control of AMP; allows legacy code to run on multicore hardware without code changes • Kit includes both instrumented and non-instrumented multicore OS kernels • Board Support Packages (BSPs) for variety of MIPS, PowerPC, and x86 multicore platforms • Complete multicore aware toolchain, including debuggers, compilers, and system-tracing tools

www.qnx.com

Renesas Technology America

LSI **RSC No: 32261**

Microcomputer made up of the H8S/2000 CPU with Renesas Technology's original architecture as its core, and the peripheral functions required to configure a system, for example, a PC server • The H8S/2000 CPU has an internal 32-bit configuration, sixteen 16-bit general registers, and a simple and optimized instruction set for high-speed operation • Can handle a 16-MB linear address space • Instruction set maintains upward compatibility at the object level with the H8/300 and H8/300H CPUs • Allows the transition from the H8/300, H8/300L, or H8/300H to the H8S/2000 CPU • ROM, RAM • Two kinds of PWM timers (PWM and PWMX) • 16-bit free running timer (FRT) • 8-bit timer (TMR), • Watchdog timer • Serial communication interface • I2C bus interface • LPC interface (LPC) • D/A converter • A/D converter • I/O ports as on-chip peripheral modules required for system configuration • A Data Transfer Controller (DTC) is included as a bus master

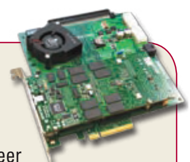
www.renesas.com

Solid Information Technology

solidDB In-Memory **RSC No: 32190**

Standards-based, full-featured relational database for high performance and always-on data availability for real-time demands of communications and other platforms and applications • Real-time performance • 99.9999% data availability • Seamless combination of in-memory and disk-based processing • Flexible deployment options • Standards-based • Near-zero administration

www.soliddb.com

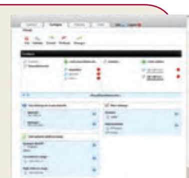


VMETRO

VanguardExpress AMC **RSC No: 31079**

The Vanguard Express family of Protocol and Link analyzers are designed for today's engineer working with PCI Express based development • Useful for debugging, testing, and validating the PCI Express protocol, the Vanguard Express analyzer allows testing of x1, x4, and x8 PCI Express in the AdvancedMC form factor • Analysis, real-time statistics, and protocol checker • Supports x1 to x8 PCI Express • Ethernet or USB host connection • 256 MB trace buffer • Same GUI as PCI and VME bus analyzers

www.vmetro.com

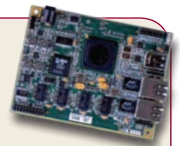


Tail-f Systems

ConfD Web GUI
RSC No: 31983

ConfD Web GUI (graphical user interface), which provides a state-of-the-art, AJAX-enabled interface for device management • Full access to all aspects of the configuration data model and database • Reuse of existing monitoring and execution commands, such as those in the CLI and NETCONF agents • Full control over look and feel • Toolset for auto-generation of whole or parts of Web applications directly from data model specification • AJAX API to facilitate development of interaction patterns that significantly improve usability • Clear separation between Web interface agent and data model

www.tail-f.com



Ultimate Solutions

Rattler 8347 Module
RSC No: 32188

A proven functional unit for inclusion in OEM products • By embedding this unit, the parent system can utilize the full functionality of the module • Onboard eCos and Linux operating system options • GNU development tools • RedBoot bootloader • 256 MB 64-bit wide DDR RAM • 32 MB flash • Two 10/100/1000BASE-TX Ethernet provided with IP stack • Two USB 2.0 (on-the-go) ports on board • Expansion port for PCI • Two additional USB 2.0 host ports on optional motherboard via PCI interface • Power supply provided • Two RS-232 ports • SCC, SMC configured • Onboard FPGA routed to reconfigurable expansion port • Onboard JTAG header

www.ultsol.com

OpenClovis

ASP & IDE
RSC No: 32218

ASP & IDE is an application service platform and integrated development environment designed to simplify and accelerate the development of next-generation communication systems • Integrated with AdvancedTCA and COTS systems • Enhances developer productivity • Reduces time-to-market • Ensures reusability of core development efforts • Offers platform-independent modeling and implementation • Increases development process consistency • Minimizes software footprint for optimized performance

www.openclovis.com


For Single Print Only
Whoa. If I could get my hands on those parts...
AMC Bezel Assemblies
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Lexan Overlays,
or Silkscreen.
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Available with Multiple Ejector Styles, Lexan Overlays,
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Simon Industries
Adapting solutions to any environment

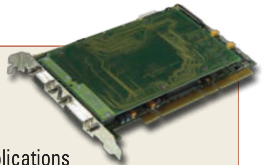
Acqiris

TC840 **RSC No: 30019**

Time-to-Digital Converter (TDC) module • Wide range, single- and multistart • 50 ps timing resolution • Designed specifically for use in large scale experiments, including hydrodynamics, particle accelerator timing, nuclear fusion studies, and explosive testing, time-of-flight measurement in mass spectrometry

www.acqiris.com

AIM-USA



APX1553 **RSC No: 25306**

PCI-X compatible cards for MIL-STD-1553 test, simulation, and monitoring applications • Dual stream, dual redundant card (APX1553-1 is a single stream, dual redundant card) • Both are provided on a PCI-X compatible, short length card format • The APX1553 cards are available as Full Function, Single Function, and Simulator only versions • Onboard IRIG-B time code generator/decoder • Can monitor/stimulate up to eight discrete I/O signals • One or two 400 MHz XScale processors for the Bus Interface Units (BIUs) • Additional 400 MHz Intel IOP80219 Application Support Processor • 1-4 MB global memory is provided plus 128 MB Application Support Processor (ASP) memory • An onboard IRIG-B time generator/decoder is included having a sinusoidal output and free wheeling mode for time tag synchronization on the system level using one or more APX1553 cards • Full function driver software is delivered with the APX1553 cards for WIN2000/XP, Linux and a LabVIEW/VI/ LabWIN/CVI interface to ease the customer integration task

www.aim-online.com

Ballard Technology

LC-AFDX-1 **RSC No: 32150**

Part of a family of AFDX test interfaces and software including CoPilot AFDX, these products are used for the development and production of Ethernet based aircraft data networks • 2 ports at 10 or 100 Mbps • Dual redundant or independent • Transmit, receive, and monitor • Statistical (MIB) support • Packet time-tagging • Error detection and injection

www.ballardtech.com

Dataforth Corporation

8B49 and 8B39-07 **RSC No: 30021**

Model 8B49, a voltage output module, and model 8B39-07, a bipolar current output module, are additions to the Dataforth SensorLex 8B family • 1500 Vrms transformer isolation • ANSI/IEEE C37.90.1 transient protection • ±0.05% accuracy • High common mode rejection • Low drift with ambient temperature • -40 °C to +85 °C operating temperature range • 5 V power • CSA and FM certifications pending • CE compliant • Mix and match module types on back panel • Measures 1.11" x 1.65" x 0.4" (28.1 mm x 41.9 mm x 10.2 mm) • Suitable for embedded or portable applications such as mobile test stands, COTS military and defense applications, miniaturized security and surveillance systems, and embedded process controls for semiconductor manufacturing equipment • Easy interfacing to almost any PC/104, CompactPCI, VMEbus, PXI, or proprietary data acquisition system board

www.dataforth.com

Digalog Systems

DigESwitch **RSC No: 30599**

Networked test solution • Up to 230 channels x 8 buses • Bus isolation relays • 19" rack-mount chassis • Ethernet 10/100BASE-T communications • Direct I/O driver called from C, C++ • Industry standard IVI C-driver • Support for National Instruments Switch Executive

www.digalogpxi.com

FuturePlus Systems Corporation

FS4410
RSC No: 31469

Offered by Future Plus • FS4410 Serial RapidIO (SRIO) protocol analysis probe • No intrusive probing a SRIO bus at a serial data rate of up to 3.125 Gbps • Connects to the system under test with various probe adapters and monitors bus traffic in real time • Supports most Agilent 16700 and 16900 logic analyzer modules • Protocol decode software with transaction viewer included • Detects, displays, filters in/out, and allows triggering on the following events in 8b Decoded Data Mode: silence; invalid serial byte (code violation or disparity error detected, but not displayed); idle sequence; control symbols with S-type0 and S-type1; control symbols within packets; packet types 0 through 15 • Optional FS4411 version supports both Serial RapidIO and PCI Express

www.futureplus.com

GAO Tek

XDS510 DSP Emulator
RSC No: 32205

XDS510 USB 2.0 Enhanced TI DSP Emulator (with latest driver for both CCS3.1 and CCS2.x) • Standard high-speed USB 2.0 interface, up to 480 MBps data transfer rate, plug-and-play, compatible with USB 1.1 host • Standardized JTAG emulation interface, save user's computer resources; interface protection design to fully support the hot-plug at JTAG interface • Latest driver for both CCS3.1 and CCS2.x, support C and Assembler • Able to emulate TI's TMS320C2000/3000/5000/6000, C3X/4X/5X/8X, OMAP families • High emulating speed, support RTDX • Prevent system from crush and non-reboot when the power of target board goes off

www.gaotek.com

Meilhaus Electronic GmbH

ME-FoXX ME-46xx
RSC No: 31511

Opto-isolated DAQ boards for professional applications • High-precision 16-bit/500 kHz A/D and D/A conversion • Up to 32 analog inputs, four analog outputs, 32 digital I/Os • Runs with Windows, Linux, LabVIEW, VEE drivers included • Models for 3U PXI/CompactPCI, and PCI; variety of versions

www.meilhaus.com

KineticSystems Company

CP213 **RSC No: 30567**

The CP213 is a single-width, 6U, CompactPCI/PXI module with either 32 or 64 differential analog input channels that can alternately be configured under software control as 64 or 128 single-ended analog input channels • A 16-bit ADC scans each channel at a scan rate chosen by the user • The number of channels scanned and scan rate are software selectable • Scans may be triggered from either the internal clock, one of eight PXI backplane triggers, the PXI star trigger bus, or an external SMB connector on the module front panel • Single and continuous scan operations are supported • If single scan operation is chosen, an interrupt may be generated at the end of the scan • 32, 64, or 128 channels of analog input • 16 multifunction digital I/O (TTL) channels that may be configured as digital in, digital out, or selectively attached to 2 frequency in, 2 counter in, and/or 2 timer out channels • 16-bit resolution • Programmable gain per channel • Programmable scan rates of <1 sps through 100 kSps • Optional 10 Hz to 1 kHz low pass filters • Precision onboard reference for end-to-end calibration

www.kscorp.com

National Instruments

NI PXIe-1062Q **RSC No: 30751**

Accepts 3U PXI, PXI Express, CompactPCI, and CompactPCI Express modules • High performance for instrumentation applications • Up to 1 GBps per-slot dedicated bandwidth (x4 PCI Express) • 354 W available power for 0 °C to +55 °C • 30 W per-slot cooling meets increased PXI Express cooling requirements • Low-jitter internal 10 MHz reference clock for PXI slots with ±25 ppm stability • Low-jitter internal 100 MHz reference clock for PXI Express slots with ±25 ppm stability • Quiet operation for 0 °C to +30 °C at 43.6 dBA • Variable speed fan controller optimizes cooling and acoustic emissions • Remote power-inhibit control • Complies with PXI and CompactPCI specifications • 0 °C to +55 °C extended temperature range

www.ni.com

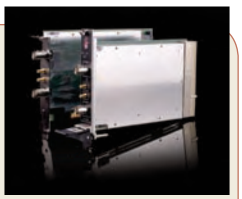
Pulse Instruments

PI-2005 **RSC No: 32191**

Digital pattern generator for serial or parallel data streams • Generate clocks, addresses, data, or triggers for semiconductor test and characterization and system integration • 225 MHz bit rate (NRZ) with precision master clock synthesis, external clock input, external start/stop inputs, and I2C • 16-64 channels in 16-channel increments, with TTL, LVTTL, or 5 V CMOS output levels • Easy-to-use software (PI-PAT) with simple instruction set provides fast pattern generation with nearly limitless looping depth • Optional programmable delay per channel • Local or remote (GPIB) control • ASCII command set for easy integration with 3rd-party software • Available as complete instrument or as 6U CompactPCI cards

www.pulseinstruments.com

ZTEC Instruments

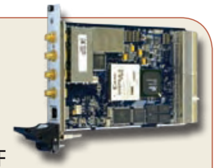


ZT410 Family **RSC No: 25179**

A family of digital storage oscilloscopes for PXI, PCI, CompactPCI, and VXI form factors • Available in both 14- and 16-bit versions • Two or four channels • 500 MSps (zt410-20) or 400 MSps (zt410-50) interleaved sample rates • Up to 16 MS memory per channel • Programmable, high-performance analog signal conditioning • Edge, pattern, pulse width, and video triggering • Envelope, average, equivalent time, and interpolated time acquisition modes • More than 35 high-precision waveform measurements, including SNR, THD, and ENOB • More than 10 waveform calculations, including FFT and IIR filtering • Onboard limit and mask testing • Low noise, distortion, and drift • Includes capabilities such as flexible signal conditioning, advanced triggering, multiple acquisition modes, and onboard signal processing

www.ztec-inc.com

RT Logic



DG3000 Digitizer
RSC No: 32185

A flexible platform for IF and baseband processing • A high-rate digitizer is tightly coupled to a Xilinx Virtex FPGA for customizable firmware-based signal processing • High-speed front end digitizer: 12 bits at 213 Msps • Support for 70 MHz, 160 MHz, 266 MHz IF • 10 MHz reference input • Configurable trigger in/out • Standard firmware personalities supported include: digital down-conversion, filtering, decimation, PSK, and PM carrier demodulation, subcarrier BPSK/QPSK demodulation, bit synchronization, Viterbi decoding, and others • CompactPCI and/or USB 2.0 Interface • PCI 64-bit/66 MHz interface • Software/support for integration into custom systems • Options for digital spectrum analysis

www.rtlogic.com

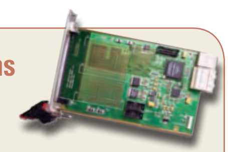
Signal Forge

SF1000 Signal Generator
RSC No: 30092

Portable Signal Generator with 1 GHz Frequency Range and AC-coupled, digital and differential outputs for digital and RF test applications • High-performance signal generator with 1 GHz frequency range • AC-couple, digital, and differential outputs support both digital clock-driven system and IC test as well as RF test • Multiple waveform modulation functions including: square and sinusoidal AM, ASK, FKS (ramped, unramped, triangle), OOK and Shaped OOK, Arbitrary/CHIRP modulation, as well as fully programmable frequency sweep control • Small, lightweight package: 8.5 in x 5.4 in x 1.5 in, 1.75 lb

www.signalforge.com

PLD Applications



PXIe XpressLite CY2
RSC No: 32140

Programmable boards and IP for PXI/CompactPCI Express system prototyping or product implementation • PXI Express x1 endpoint add-in board for CompactPCI Express systems • Altera Cyclone II based (EP2C50 standard configuration) • PLDA's IP Core PXIe x1 endpoint (low gate count) • External connections: x1 PXIe male connector; LEDs, switches, user I/Os; Mictor connector for probing; Prototyping matrix for daughter card extension (Santa Cruz) • Programmable FPGA via a JTAG connector or the EPCS16 (AS configuration)

www.plda.com

Adtron Corporation

Bladepak SC6M **RSC No: 30035**

A storage blade that delivers self-contained RAID-1 functionality • Redundant disk storage, up to 80 GB in a 6U CompactPCI single slot • Configurations for either PCI or off board SCSI connection • Front panel hot swapping for replacement of a failed disk drive • Automatic rebuild of a new disk drive after operator initiation • Independent operation of redundant drives without host intervention featuring Adtron ActiveRAID technology • No additional software drivers are required for operation as a SCSI boot and data storage system

www.adtron.com

SANBlaze Technology

SB AMC-SSD **RSC No: 32125**

AdvancedMC Solid State Drive Module • Rugged, high capacity, high throughput, mission critical AdvancedTCA and MicroTCA storage design requirements • Storage options up to 64 GB • Nonvolatile memory and no moving parts • Up to 40 MBps sustained read/write rate • Extending environmental ranges • AMC.3 compliant

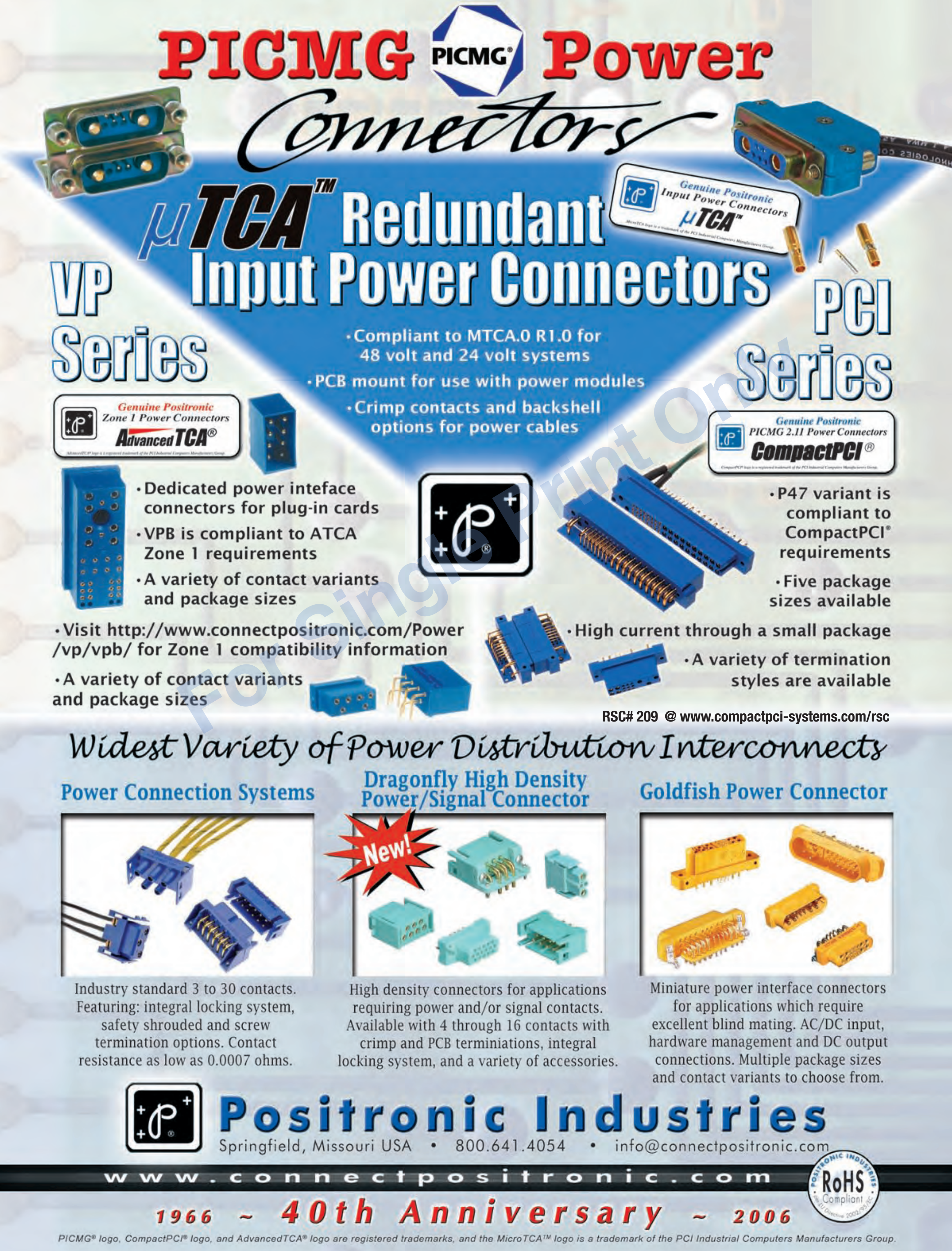
www.sanblaze.com

VMETRO

SANbric
RSC No: 25290

A removable rugged storage device with a six-disk Just a Bunch Of Disks (JBOD) • Designed to tolerate high shock, vibration, altitude, and temperature conditions • Suitable for applications that utilize ELINT, COMINT, SIGINT, SAR, MTI, and SDR • Isolated during deployment in a protective shock isolation frame • Retains 6" x 3.5" Fibre Channel disk drives • Can be connected to a Fibre Channel adapter or switch for scalability in a Fibre Channel Storage Area Network configuration • Dual 2 Gbps Fibre Channel Interfaces • Split backplane for dual loop operation • Up to 385 MBps sustained recording using Vortex recorders • 1.8 TB capacity • Removable disk module with easy insertion/extraction handle • Sealed for operation to 72,000 feet • Custom chassis to fit application requirements

www.vmetro.com


PICMG Power Connectors
µTCA™ Redundant Input Power Connectors
Genuine Positronic Input Power Connectors µTCA™
·Compliant to MTCA.0 R1.0 for 48 volt and 24 volt systems
·PCB mount for use with power modules
·Crimp contacts and backshell options for power cables
VP Series
Genuine Positronic Zone 1 Power Connectors AdvancedTCA®
·Dedicated power inteface connectors for plug-in cards
·VPB is compliant to ATCA Zone 1 requirements
·A variety of contact variants and package sizes
·Visit http://www.connectpositronic.com/Power/vp/vpb/ for Zone 1 compatibility information
·A variety of contact variants and package sizes
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RSC# 209 @ www.compactpci-systems.com/rsc
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Industry standard 3 to 30 contacts. Featuring: integral locking system, safety shrouded and screw termination options. Contact resistance as low as 0.0007 ohms.
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High density connectors for applications requiring power and/or signal contacts. Available with 4 through 16 contacts with crimp and PCB terminiations, integral locking system, and a variety of accessories.
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Miniature power interface connectors for applications which require excellent blind mating. AC/DC input, hardware management and DC output connections. Multiple package sizes and contact variants to choose from.
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Amphenol Corporation

Amphe-dB **RSC No: 31443**

A RoHS-compliant series of filter connectors that remove electromagnetic interference • The rugged design of the Amphe-dB allows it to withstand the most challenging applications in the industrial market such as welding, GPS, and heavy equipment • Also suitable for use in medical applications including laboratory equipment, scanners, patient monitoring, and therapy equipment • Unlike other options that redesign Printed Circuit Boards (PCBs) to incorporate filtering, Amphenol's Amphe-dB industrial filter connector is installed at the entrance of a device, providing a clean signal where the information enters or exits • Helps to ensure EMI will not affect the device's other components and allows it to operate properly

www.amphenol.com

Compel Electronics

D-sub **RSC No: 29772**

Made with an integrated capacitive filter • Use consolidated technology with chips array, tubular capacitors, or planar ceramic multilayers • The integration is such that the standard measurements of the D-sub product line are maintained, in line with the DIN 41652 standard, and this means that the wide range of accessories already available for these products can also be used with the filter connectors • Available in different versions (number of poles, male/female, with straight and right angle dip solder terminations for cable applications with manual soldering) and with different standard capacitive values (from 330 pF to 1500 pF), or according to customer requirements • For versions with a tubular filter and chips, it can be even further personalized and optimized in that each single pin of the same connector can have a different capacitive value

www.compel.it

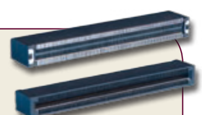
FCI

AirMax VS System **RSC No: 30213**

Edge-coupling technology and air dielectric between adjacent conductors deliver lowest insertion loss and crosstalk • High-speed serial data rates can scale from 2.5 Gbps to beyond 12 Gbps with no basic platform redesign • No interleaving shields for reduced connector weight, cost, and PCB routing complexity • Allows allocation of differential or single-ended signals or power within the same signal module connector • Co-planar signal modules available with 15 contacts (5 differential pairs) or 12 contacts (4 differential pairs) per column • 2 mm column spacing and 15 contacts (5 differential pairs) per column in co-planar signal modules for highest signal density • 2 mm pitch, 5-pair configuration provides 63 differential pairs per linear inch on 25 mm (1.0 inch) card slot spacing

www.fciconnect.com

FCI

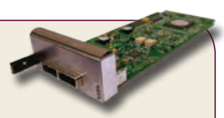


MicroTCA Connectors **RSC No: 30214**

Dual-row, 170-position card-edge interface with 0.75 mm contact pitch • Surface-mount (SMT) termination optimized for electrical performance, cost, and availability • Very low loss and crosstalk for low-voltage differential signaling at data rates of 12.5 Gbps per lane • SMT footprint allows for increased flexibility in routing PCB traces • Metal retention clips at connector ends provide additional mechanical strength after soldering • Lead-free and RoHS-compatible • Designed to be compliant with Telecordia Uncontrolled Environment (UE) requirements

www.fciconnect.com

SANBlaze Technology

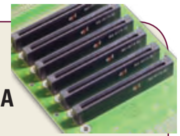


SB-AMC-SAS **RSC No: 32124**

Advanced Mezzanine SAS Adapter • 8 SAS/SATA ports • 3 Gbps per port • Integrated RAID 0, 1, 1E, and 10E • 8 Lane PCI Express backplane connection • Connects up to 122 total end points • AdvancedTCA and MicroTCA based system designs

www.sanblaze.com

EPT, Inc. USA

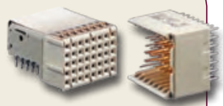


AdvancedTCA B+/MicroTCA
RSC No: 30212

12.5 Gbps signal speeds, with minimal loss of signal integrity • Rugged design with EPT T-com industry proven press-fit insertion technology • Easily routed signal paths with off-set pin designs • High density cost-effective solution when compared directly to compression fit designs • Highly reliable card edge to PCB connection eliminate potential pin stubbing • Available with optional pre-alignment for safe and easy assembly

www.ept.de

ERNI Electronics

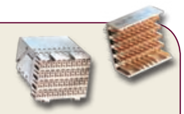


ERmet 2mm HM EXP
RSC No: 30185

Designed around the popular CompactPCI form factor • Integrated coding elements for preventing incompatible board/slot configurations • 40 signal pins in a 5 row by 8 column configuration

www.erni.com

ERNI Electronics

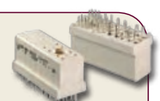


ERmet ZD High Speed Backplane Connector **RSC No: 20395**

Fully compatible with 2 mm HM equipment • 2 mm HM hardware and accessories • Designed specifically for high speed differential • Optimized trace width and trace space • Supports speeds beyond 5.0 Gbps • 4-pair 25 mm provide 40 differential pairs/25 mm • 3-pair 25 mm provide 30 differential pairs/25 mm • 2-pair 25 mm provide 20 differential pairs/25 mm

www.erni.com

ERNI Electronics

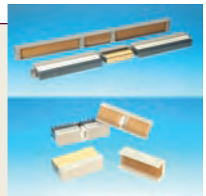


ERNI ATCA Power Connector
RSC No: 32156

This connector meets all PICMG 3.0 performance requirements and is fully intermateable with alternative connectors, which were designed according to the same standard • Stamped female contacts with high conductive material for highest current carrying capacity • Reliable and proven press-fit zone • Standard flat rock press-in tools • No additional PCB retention hardware required • Female contacts fully protected through proven lead-in design • Controlled plating thickness at female mating point

www.erni.com

Hypertronics



Hypertronics COTS **RSC No: 30154**

Robust 2 mm CompactPCI connectors • Immune to shock and vibration, which can cause fretting • Standard 2 mm footprint • Reverse gender to commercial 2 mm products • Single shielding • Variable in length and can be changed in increments of five contacts (one wafer) due to the modular wafer length • Hypertronics contact lead traces provide superior performance in high-speed signal applications • Hypertac contacts with up to 100,000 mating cycles and low mating forces • Mechanically compliant with IEEE 1101.2 -1992 • Keying feature guarantees proper mating • Aluminum frames for ruggedness and conduction cooling • Configure and download 3D connector models or 2D drawings

www.hypertronics.com

Meritec

12X/3-4X Cable Assembly **RSC No: 32159**

A comprehensive line of cable assemblies supporting single, double, and quad data rates for high speed data transfer applications that include 10G Ethernet-CX4, InfiniBand, SATA, and SAS • 4X and 12X assemblies are offered with 24-26-28-30 AWG cable • Other cable offerings are also available on request • Angled 4X cable egress available for ease of packaging and cable routing • Patented latch design • Thumbscrew version available for rugged applications

www.meritec.com

Molex

AMC B+ Connector
RSC No: 31479

Press-fit 10 Gbps Advanced Mezzanine B+ connector for AdvancedTCA carrier boards and blade servers • Electrically tuned for 10 Gbps performance • Insert molded "chicklet" design provides excellent electrical performance • Proven contact interface similar to SFP connectors • Proven press-fit zone used in other backplane connectors • Available with or without PCB alignment pegs

www.molex.com

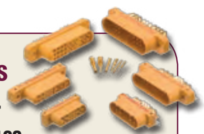
Molex

MTP-CPI
RSC No: 29791

MT-ferrule-based interconnect designed specifically for coplanar applications • Available in rear-mount and side-mount styles • Intended to meet the dimensional requirements of the AdvancedTCA Zone 3, connector specifications • Allows front cards to be replaced without disrupting cable at the rear of the chassis • Suitable for internetworking, telecommunication, and test and measurement equipment

www.molex.com

Positronic Industries



Goldfish Miniature Power Connectors **RSC No: 32183**

High reliability power connectors with outstanding features • AC/DC input power • Signal contacts • Output power contacts • Sequential mating options • Three package sizes with six contact variants • Excellent blind mating

www.connectpositronic.com

Oupiin

9111 **RSC No: 32239**

Hard metric, CompactPCI, Future Bus+ 4 and 5 row with power • Through hole and compliant pins • Power and coaxial available along with IDC

www.oupiin.com

Molex

PCI Express I/O – AMC
RSC No: 31480

The iPass interconnect system is a family of I/O connectors that can fit a compact AdvancedMC card • They are used for PCI Express, SAS, and SATA high-speed connections • Fully shielded cable assemblies, guide frames, and host connectors to assure good signal integrity • Industry standard for PCI Express 4x, 8x, and 16x • Also industry standard interconnect for SAS and SATA • Diecast guide frames align the mating cable for a robust cable-to-chassis interface • Guide frame panel-mount gaskets provide improved EMI performance • Screw attachment for the guide frame to the PCB, which provides a rugged connection for large cable bundles • Multiple guide frame configurations provide board design flexibility • Keying to MSA specification eliminates accidental mating to other cable configurations

www.molex.com

Yamaichi Electronics USA

AMC – (CN074 Series) Connector **RSC No: 20400**

CN074 supports data transfer between AdvancedMC and AdvancedMC Carrier Board (blade) at12.5 Gbps and beyond, optimizing the performance of the AdvancedTCA system • PICMG AMC.0 Revision 1.0 compliant • GR-1217-CORE compliant • Compression style contacts to the carrier board with wiping action to ensure high reliability • Integrated, high-performance • Yamaichi developed YFlex with B^2IT interconnect technology • Base substrate is LCP material, which has a very low CTE • Contacts designed for high-speed applications – very short stub • Supports speeds beyond 12.5 Gbps • Low Dielectric Constant Insulation Material: – Connector housing: 3.10 @ 6 GHz – YFlex: 2.85 @ 6 GHz • Controlled impedance contacts 100Ω ±10Ω • 200 mating cycles • Operating temperature: -25 °C to +105 °C

www.yeu.com

TYCO Electronics

Half-height RJ-45s
RSC No: 30201

Performance exceeds Near End Crosstalk (NEXT) requirements of -40 dB on all pair combinations at 100 MHz per EIA/TIA 568A • Designed for 1.6 mm thick PCB • Meets or exceeds FCC Part 68 rules and regulations with typical RJ-45 PC board footprint • Lead-free and RoHS compliant

www.tycoelectronics.com

2factor

RPM Gateway **RSC No: 25213**

RPM Gateway provides mutual authentication and data security for embedded systems • Mutually authenticates and encrypts every transmission with a new key and works on any device (cell phone, PDA, and so on) • Not limited like PKI technologies – hundreds of times faster, will fit on a chip, does not require digital certificates or additional hardware • Mutual and constant authentication – Every transmission is authenticated and encrypted for both sender and recipient • Progressive key management – Each transmission is secured with a new and unique key • Flexible Trust Model – supports federated trust as well as hierarchical control and P2P models for integration into any business data model • More secure – authenticates and encrypts every transmission • Smaller – Full RPM functionality fits on any embedded device • Scalable – allows for millions of users • No third-party integration

www.2factor.com

4DSP

FM482 **RSC No: 32154**

Virtex-4 PMC/XMC with optical tranceivers, A/D, D/A, and video capabilities for data acquisition and signal processing • Two Virtex-4 FPGAs in parallel (SX or LX and FX families) • PCI-X 64-bit 66/133 MHz, PCI 32/64-bit 33/66 MHz • PCI Express 4 lanes • Four 2.5 Gbps optical transceivers on the front panel • 256 MB DDR2 SDRAM and 32 MB QDR2 SRAM • 1 GHz 8-bit , 210 MHz 12-bit, 125 MHz 14-bit A/D and D/A daughter cards • Camera link and 1 GB DDR2 SDRAM daughter card • Intellectual Property cores for real time FFT, video compression (JPEG and JPEG2000)

www.4dsp.com

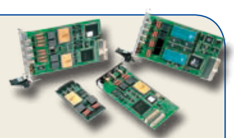
AcQ InduCom

Model: CPCI302 ARINC-429 **RSC No: 29993**

Four ARINC-429 compatible channels (two receive and two transmit) at any rate between 12.5 and 100 kbps • Because the CPCI302 is built upon a flexible platform, the user functions can be implemented almost without restriction, making this product flexible and user-friendly • 3U form and is also available as 6U CompactPCI card • Flexible platform allows easy addition of user-specific requirements • 2 transmit channels, 2 receive channels • Data rate software adjustable between 12.5 and 100 kbps per channel • 16 user-selectable labels for interrupt generation upon reception • Status and statistics monitoring for all channels • ARINC-429 rise/fall capacitors selectable per channel • Provides excellent platform for ARINC-429 protocol analyses

www.acq.nl

Alphi Technology Corporation

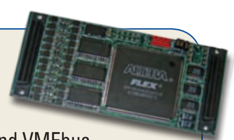


MIL-STD-1553 **RSC No: 32111**

Supports bus controller, remote terminal, and bus monitor • Alphi uses both the UTMC Summit and BCRTM and the DDC ACE controller • VME, IP, CompactPCI, PCI, and PMC versions available • Bus controller • Remote terminal • Bus monitor • Onboard transformers • Onboard transceivers • Optional extended temperature

www.alphitech.com

Alphi Technology Corporation



FPGA RapidI/O board **RSC No: 32116**

A complete line of RapidIO and FPGA modules for PCI bus, PMC, Industry Packs, and VMEbus • Xilinx Spartans, Xilinx 4020 • Up to 4 MB SRAM • Altera 10k series Cyclone • Standalone option • TLL output • 422 output • LVDS output

www.alphitech.com

Accolade Technology

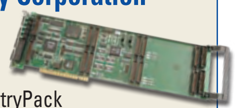
ASTDM **RSC No: 32187**

Flexible, scalable Verilog RTL design block that implements the PICMG SFP.1 I-TDM specifications • ASTDM may be used in an ASIC or FPGA for transforming TDM traffic (DS0 data) into I-TDM packets, to be carried over telecom backplanes such as AdvancedTCA and MicroTCA • Flexible and scalable micro-sequencer-parser architecture • Easy integration of new features and scalability from 8 T1/E1 (256 channels) to OC-12 (8K channels) • The macro is intended for either FPGA or ASIC synthesis, typically using 0.18μ or better geometries • Complies with AdvancedTCA SFP.0 and SFP.1 (I-TDM) • TDM formats supported include H.110 and low pincount Telecom Bus • Generic 32 bit CPU interface, with ring-based DMA for 1 ms HMP • DMA engine supports non-TDM traffic between backplane and CPU • 125 μS and 1 mS I-TDM modes, with hardware assisted ACK/Activate protocol • Scalable architecture: the core can be parametrized, using operating frequency and RAM, for different DS0 counts, from 8 T1/E1 (256 channels) to OC-12 (8K channels)

www.accoladetechnology.com

Alphi Technology Corporation

PCI-6713-4IP
RSC No: 32138



DSP based quad IndustryPack carrier • TI 6713B DSP running at 288 MHz • Supported by more than 20 Industry Packs from Alphi Technology • PCI Bus Interface 3.3 / 5 V • PLX 9056 33/66 MHz • High performance Floating-Point DSP TI 6713B • Up to 288 MHz system clock • Up to 32 MB of SDRAM • 4.0 Mbit flash for bootstrap program • Quad IndustryPack sites • 8/32 MHz support • VITA 4 compliant

www.alphitech.com

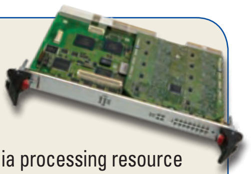
Alphi Technology Corporation

PCI-6713-MFIO
RSC No: 32137

PCI Bus Interface 3.3 / 5 Vt • PLX 9056 33/66 MHz • Floating-Point (DSP): TMS320C6713B • 300 MHz system clock • Up to 32 MB of SDRAM • 4 MB of dual-ported SRAM • 4.0 Mb flash for bootstrap program • USB 2.0 CY68001 controller • RS-232C controller • 16 independent ADC • 16 bit differential A/D up to 1 MSPS • 16 independent buffered DACs • 16 bit D/A, 2 μS settling • User Cyclone FPGA with 48 buffered I/O

www.alphitech.com

Aculab

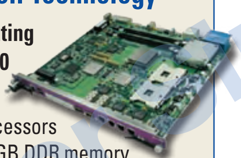


Prosody X cPCI
RSC No: 30391

A high-density IP media processing resource card suitable for implementation in large enterprise and telco-grade communication solutions • Up to 1,200 rich media processing resource channels per card • Telco-grade form factor and functionality, including hot swap and automatic failover • Provides 99.999% availability, system reliability, and resilience – enabling service continuity • Allows implementation of N+1 or 1+1 protection schemes with redundancy management • Unrestricted number of SIP bridge channels for third-party call control • Widest range of media processing resources throughput • Dual redundant 1 GbE ports • SIP, H.323, and a wide range of SS7, ISDN, and CAS protocols • Optional TDM module – 8 or 16 software selectable E1/T1 • Distributable among different chassis – cost-effective use of resources • All Aculab software available under a cost-free license

www.aculab.com

American Portwell Technology



AdvancedTCA Computing Node Card, TANC-5260
RSC No: 20412

Dual Intel LV Xeon processors up to 2.4 GHz • Up to 4 GB DDR memory • One 64-bit PMC interface through independent PCI-X channel • Eight Gigabit Ethernet interfaces based on the Intel 82546EB • Four copper/RJ-45 connectors on the front panel • Two SFP sockets for SFP modules on the front panel • Two Gigabit Ethernet ports on the rear Zone-1 connector for backplane interconnection • Built-in CompactFlash socket for Type-I CF card • One RJ-45 system console • Zone 3 connector for connection with Rear Transition Module (RTM) • Dual USB ports for ease of system maintenance

www.portwell.com

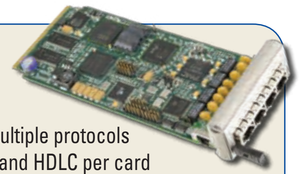
Beijing Fountain Microsystems

FTC-6000 **RSC No: 25232**

High performance DSP resource board FTC-6000 is designed for the demands of processing performance, network capability, and video/voice processing in the fields on telecommunication, industrial control, and broadcast application • MPC8540 processor, 833 MHz • Dual C6416 DSP processor • PICMG 2.16 support

www.fountainsys.com

Adax



HDCII-AMC **RSC No: 31159**

Protocol controller • Dynamically configurable • Up to 124 channels of multiple protocols including SS7 MTP2, SCTP acceleration, LAPB/D/V5, Frame Relay, X.25, and HDLC per card • Ability to install multiple cards in a system • Scalable, flexible, and cost effective • Suitable for signaling gateways, media gateway controllers, and SGSN, GGSN, MSC, HLR/VLR, and BSS nodes in Next-Generation Networks • Four software selectable trunks of full E1 or T1 (64 kbps), compliant to G.703/G.704 per card • Up to 4 HSL MTP2 links per card (Annex A) • Channelized HDLC processor, providing time domain multiplexing, buffer requeuing and management, further reducing host CPU overhead and maximizing capacity to perform application functions • Support for Linux, Solaris X.86, Solaris SPARC • Other operating systems on request

www.adax.com

Alliance Systems

A-5000 Compact 5U ATCA Platform **RSC No: 21329**

5U rack-mountable AdvancedTCA system with five-slot full-mesh backplane • Supports two Intel shelf managers with bussed IPMB and three node slots for single or dual Intel Xeon 2.8 GHz CPU or other AdvancedTCA boards • Dual – 48 Vdc with power indicators or an AC version with 750 W power supply and dual hot-swap power supplies removable from the front with replicated mesh backplane • Meets NEBS requirements for cooling, noise, and shielding; providing two 290 CFM fans for cooling up to 200 W per board and designed for easy access to top board with removable top cover and cover plate • MontaVista Carrier Grade Edition 3.0 and Windows 2003 Server • Covered by two-year warranty with optional extended warranties and technical support upgrade plans

www.alliancesystems.com

ADLINK Technology

aTCA-3110 **RSC No: 30787**

An AdvancedTCA hub switch board • Supports PICMG 3.1 base interface for AdvancedTCA shelves up to 14 slots (2 hub slots and 12 node slots) • Base interface provides 1000BASE-T Ethernet connections between the hub slot and each node slot • Eight tri-speed 1000/100/10BASE-T external uplink connections are provided on the front panel for easy access to the base interface • Onboard Ethernet switch supports full speed nonblocking throughput on all ports • Hardware switching of Layer 2 or Layer 3 packets is also supported

www.adlinktech.com

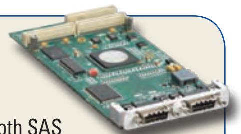
Ample Communications

GE-10GE Aggregation **RSC No: 32219**

Intelligent Ethernet MACs • Increases the performance and efficiency of enterprise and WAN • Redhawk MAC: 2-port 10 Gbps intelligent MAC with embedded XFI SerDes and multiprotocol over-subscription support – targeted for Ethernet switches and routers, Internet Appliances, and access devices in enterprise and metro applications • A single Redhawk device aggregates two 10 Gbps Ethernet ports for line rate, 2 to 1 over-subscribed, and 1 + 1 protected configurations • Two Redhawk devices maybe be cascaded using a SPI-4.2 interface for a 4:1 single stage over-subscription applications • On-chip packet memory for packet buffering

www.amplecomm.com

Astek Corporation



A3803-PMC **RSC No: 32081**

Serial attach SCSI host board adapter • 3 GBps per port, 8 ports • Connects to both SAS and SATA hard disk drives • 64-bit, 133 MHz PCI-X • LSI Logic's Fusion-MPTTM, featuring more than 140,000 I/O per second • Aggregate I/O port bandwidth of 2.4 GBps and full duplex capability • Leverages existing SCSI infrastructure for investment protection and ease of migration • Allows point-to-point connection and higher availability with dual ported drives • Supports all major OSs • Three-year limited warranty

www.astekcorp.com

Astek Corporation

A7204-PMC **RSC No: 32110**

Fibre Channel Host Bus Adapter (HBA) with support for SCSI and IP protocols • Two ports, 4 Gbps Fibre Channel with SFP transceivers, auto negotiation for compatibility with 2 Gbps and 1 Gbps Fibre Channel products • 133 MHz PCI-X support, PCI 2.2, IEEE 1386.1, VITA-39 compliance • 7.5 W operating power • Up to 252 Fibre Channel WWID targets addressable • Supports loop and switch topologies • OS support for Windows Server 2003, Windows XP, Solaris 8/9, Linux, and VxWorks 5.5.x and 6.x

www.astekcorp.com

BittWare

Tetra-PMC+ **RSC No: 30158**

Analog-to-Digital (A/D) I/O card • A high-speed analog input board that provides data capture for four 14-bit A/D channels running at up to 105 MHz, streaming this data directly to an Altera Cyclone II reconfigurable FPGA • The Cyclone II provides control over the A/Ds and handles the distribution of the high-speed converted data while also providing configurable pre-processing of this data, enabling digital filtering, decimation, and digital down conversion (DDC) • The data can be transferred to the base board over the PMC interface by the Cyclone II

www.bittware.com

Commetrex Corporation

BladeWare
RSC No: 25544

Telephony middleware that relieves the user of CompactPCI and AdvancedTCA hardware of the burden from developing the software framework required in all digital-media telephony systems • There are six major components of systems such as media servers and gateways: (1) the application software, (2) the telephony middleware, which exposes an API to the top-level application, (3) the streams framework, which supports the various media-processing algorithms, (4) the media-processing technologies, (5) signaling entities, and (6) the hardware • Applications: media server, media gateway, mediation gateway, PBX, and conferencing server

www.commetrex.com

e2v technologies

PC109 Host Processor Bridge
RSC No: 32130

Provides system interconnect between PowerPC processors, PCI peripherals, and local memory • Capable of supporting two processors connected through the MPX bus and is capable of operating at a bus speed up to 167 MHz (or up to 200 MHz when supporting a single processor) • Complements the PC7447A and PC7448 high-reliability microprocessors • Suitable for high-reliability embedded applications such as radars, aircraft displays, and electronic countermeasures, where performance, power efficiency, and reliability are critical to the mission's success • DDR2 memory controller supporting DDR2-400 devices • The 133 MHz PCI-X interface • Two Gigabit Ethernet ports • Clock generation • DMA • Interrupt Controller • I2C • UART • Available for sampling in a 1023-ball Flip-Chip Plastic BGA package

www.e2v.com

Carlo Gavazzi Computing Solutions

XP-10E Expansion System **RSC No: 25190**

Allows users to migrate to a PCI Express system • Suitable for military, commercial, server, data acquisition, and recording industry applications • Nine PCI 2.3 compliant slots and one PCI Express x4 clot from a single PCI Express host system slot • PCI Express 1.1. compliant system • Host card • Motherboard • 4U rack-mount or benchtop chassis • Expansion chassis connects to the host using one PCI Express x4 serial cable • Host system and expansion system can be placed up to five meters apart • Internal 300 W ATX power supply • Optional dual redundant 400 W or 500 W power supplies • Supports interconnect bandwidths of 10 Gbps full duplex • Host system interface includes one x4 PCI Express edgecard connector

www.gavazzi-computing.com


Linux OS
PowerPC®
user coprocessor
CompactFlash®
USB 2.0
Serial ports
Mixed protocol
Ethernet
ports/switch
High channel
count
OmniBusBox™
Ballard Technology
NETWORK
COMPUTER
STATUS
POWER
J1
J2
ETHERNET
J3
USB
SPD
ACT
J4
RS-232
CORE A
CORE B
J5
J6
AVIONICS DATABUSES
For Single Print Only
Beyond the card
The smart avionics databus interface that stands alone
MIL-STD-1553
ARINC 429
ARINC 708
ARINC 717
ARINC 664/AFDX
CSDB
Discretes
Serial
Others
PCI
cPCI/PXI
PMC
PCMCIA
VME
PC/104
OmniBusBox
USB/Ethernet
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OmniBusBox™ can do all that a databus card can do and much, much more. Use the OmniBusBox as a local peripheral to a computer, as a remote data server in a network, or as a stand-alone data or protocol converter. Run your own applications or use with CoPilot® as a full featured, multi-protocol avionics databus analyzer. With the power and flexibility of the OmniBusBox the possibilities are endless.
Call (800) 829-1553 or email sales@ballardtech.com
Ballard Technology
Powerful solutions
Avionics databus tools & interfaces
www.ballardtech.com
RSC# 73 @ www.compactpci-systems.com/rsc

Eonic BV

SIGINT 5000 Series **RSC No: 32202**

COTS reconfigurable multichannel digital recorder/replay system • High bandwidth: up to 80 MHz BW per channel • User selectable clock generation • Excellent dynamic range (SFDR) and SNR • Supports all common IFs: 100 kHz, 200 kHz, 455 kHz, 10.7 MHz, 21.4 MHz, 70 MHz, 140 MHz, and 160 MHz • Phase coherent data acquisition for synchronized recording of multiple channels • Adjustable time of continuous loop recording with crash protection markers, ensuring reliable recording • User selectable DDCs • Simultaneously recording, display and playback • Size: 15" deep • Voice and text annotations while recording • Supporting Industry Standard Interfaces • Data export and import via Gigabit Ethernet or USB 2.0 • IRIG A, IRIG B, and GPS time code recording

www.eonic.com

ESO Technologies

HAPx **RSC No: 30167**

A high-availability middleware providing fault recovery and system management services for computing and communication platforms • Addresses the needs of applications that must guarantee service continuity, such as the 99.999%+ uptime required in telecom carrier grade equipment • Available in two versions: HAP1: HA & System management for HPI-based systems; HAP2: HA management for any system • Control and monitoring of applications, database, protocol stacks, HW resources • 1+1, 2xN, N+1 redundancy models • Stateless and stateful redundancy • HW and SW dependency management • Configurable recovery policies • Systemwide logging mechanism • Easily portable to different OS/ platforms through its architectural features: C++ library linked with user application • Use of sockets, threads, events, and mutexes

www.eso-tech.com

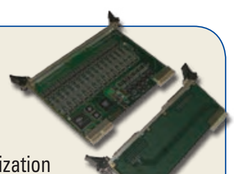
Fine Point Technologies

ServPoET BMS 1000 **RSC No: 32104**

Largest capacity Point to Point Protocol over Ethernet (PPPoE) termination server • The BMS 1000 can grow with your network to support up to 72,000 subscribers • Multiple Protocol Encapsulation Support • PPPoE, Point to Point Protocol over Ethernet over ATM (PPPoEoA), Point to Point Protocol over ATM (PPPoA), Bridged ATM (1483/2684) over Ethernet, Layer 2 Tunneling Protocol (L2TP, LAC/LNS), and 802.1q (Tagged VLAN), allowing for multiple different types of subscriber aggregation • High performance with flexibility • Two managed Layer 2 and 3 switches with six Gigabit Ethernet ports to support the 12 ServPoET BMS slots • PPPoE Load Balancing • Enables Service Providers with legacy ATM infrastructure to utilize the AdvancedTCA platform by offering ATM interfaces, making the ServPoET BMS 1000 suitable for next-generation networks

www.finepoint.com

General Standards Corporation



cPCI6U-24DSI32R **RSC No: 32241**

32-channel 24-bit Delta-Sigma CompactPCI 6U analog input board with rear I/O • Low noise, 24-bit resolution, low phase distortion and multiboard synchronization make the cPCI6U-24DSI32 board suitable for state-of-the-art sonar and noise monitoring applications • Optimized for flexibility and performance, the board suits for a wide variety of applications, ranging from simple precision voltage measurements, to the analysis of complex audio signals and waveforms • Each of the 32 delta-sigma analog input channels can be can be harmonically locked together • A/D conversions on multiple boards can be synchronized and phase-locked • Input bandwidth is from DC to 80 kHz • Sample rates are adjustable from 2KSPS to 200KSPS, and the input range is software selectable as ±2.5 V, ±5 V, or ±10 V • Internal autocalibration networks permit periodic calibration to be performed without removing the board from the system • Software support available: Windows 2000, Windows NT 4.0, Windows XP, Windows ME, Windows 98SE, Linux 2.2, Linux 2.4, Linux 2.6

www.generalstandards.com

Hunt Engineering

HERON-FPGA12 **RSC No: 30063**

HERON module with Virtex-4FX12 FPGA plus 128 MB DDR SDRAM, flash memory, and 60 bits digital I/O • Xilinx XC4FX12 Virtex-4 FPGA with embedded PowerPC • 128 MB DDR SDRAM connected as 32M x 32 at 200 MHz • 16 MB flash memory for PowerPC code storage • FPGA downloaded using the HERON serial bus • Choice of clocking options • 60 bits DIO • Connects to all of the HERON FIFOs, UMI, and module ID signals • Flash PROM for storage of FPGA configuration data • Module can be used with ready-made IP to perform often used functions

www.hunteng.co.uk

Inova Computers

ICPe-SYSC-EXP
RSC No: 30152

First complete 3U CompactPCI Express System • 100 W CompactPCI Express 115 V/ 230 V AC/DC PSU six-slot CompactPCI Express backplane with legacy support • Translation board with GbE and HD interface • Windows XP Embedded • MTBF > 200,000 hours • 0 °C to +60 °C operational temperature • Conforms to EN50155 (DC PSU) • 1 GHz ULV Celeron M/2.0 GHz Pentium M CPU • Intel 915GM chip-set with DirectX 9 h/w support • Up to 2 GB 533 MHz DDR2 RAM • VGA / DVI / TFT supported video formats • Up to 2048 x 1536 pixel video resolution • Up to two independent Gigabit interfaces • Up to eight USB 2.0 Interfaces • CPU extension with HD, COM, and PS-2 interfaces • Single-slot, inline Serial ATA Interface • µDOC Technology or CompactFlash • µController for system management • Intelligent rear I/O • The conduction-cooled 1 GHz Celeron version is just 4HP wide and is suited to applications in harsh environments or extremes of temperature

www.inova-computers.de

IXXAT

CompactPCI for EPL
RSC No: 29939

The Ethernet Powerlink interface card enables the connection of host systems to EPL systems via the CompactPCI bus • Two Ethernet controllers with EPL acceleration • Two-port hub with two RJ-45 connectors per Ethernet controller • Four-port hub when using only one Ethernet controller • Direct synchronization of several cards via SYNC-line • Response times as MN/CN less than 2 µs • CompactPCI bus interface (32-bit/33 MHz, 5 V or 3.3 V)

www.ixxatusa.com

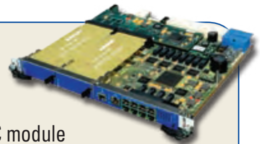
Kontron

AM4330 **RSC No: 32254**

AdvancedMC IPsec module • Mid-size form factor • IPsec encryption performance: IPV4/IPV6 ESP, (3DES/SHA1) 1.5 Gbps (1500-byte packet); IPV4/IPV6 ESP (AES128/SHA1) 2.6 Gbps (1500- byte packet) • Public key performance; 1K IKE handshakes/sec (quickmode w/2DH); 1K SSL/TLS handshakes/sec • Compression engines: LZS and MPPC engines run at up to 3.5 Gbps and increase the effective data rate throughput of the 8155 when enabled • Support for up to 3,072-bit public keys • IPMI 1.5 support plus remote upgrade capability from all IPMI interfaces (via IPMB)

www.kontron.com

Kontron

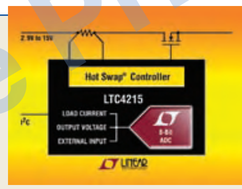


AT8902 B/F Switch **RSC No: 30133**

PICMG 3.0/3.1-compliant base and fabric interface switch • Two AdvancedMC module slots for customization • Nonblocking layer 2 switching with VLANs • Dual GbE services to redundant switch board • Dual GbE services to payload slots 2-5 • Gigabit Ethernet service to payload slots 6-14 • Versatile front/RTM uplinks (base/fabric, 4x GbE each) • Dual 10 GbE connection to one AdvancedMC slot

www.kontron.com

Linear Technology Corporation

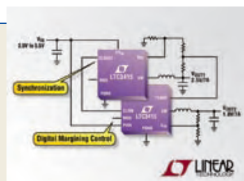


LTC4215 **RSC No: 31377**

Hot swap controller with I2C compatible monitoring • Allows a board to be safely inserted and removed from a live backplane • Using an external N-channel pass transistor, board supply voltage and inrush current are ramped up at an adjustable rate • A I2C interface and onboard ADC allow for monitoring of load current, voltage, and fault status • Adjustable foldback current limit and a soft-start pin that sets the dI/dt of the inrush current • An I2C interface may configure the part to latch off or automatically restart after the LTC4215 detects a current limit fault • Additional features include interrupting the host when a fault has occurred, notifying when output power is good, detecting insertion of a load card, and powering-up either automatically upon insertion or waiting for an I2C command to turn on

www.linear.com

Linear Technology Corporation



LTC3415 **RSC No: 32228**

Trackable, phase-lockable, current sharing monolithic DC/DC converters • High efficiency, monolithic synchronous buck regulator using a phase lockable constant frequency, current mode architecture • PolyPhase operation allows multiple LTC3415s to run out of phase while using minimal input and output capacitance. The operating supply range is from 5.5 V down to 2.5V • High efficiency: Up to 96% • 7 A output current at VIN = 3 V • Adjustable Frequency: 1.5 MHz Nominal • polyphase operation (up to 12 phases) • Spread spectrum frequency modulation • Output tracking and margining • ±1% reference accuracy

www.linear.com

Mindready Solutions

IEEE-1394 a&b OHCI **RSC No: 32248**

CompactPCI 3U and 6U OHCI v1.0 • Models provide either IEEE-1394a or IEEE-1394b serial bus support • Extensive protection from power line ground noise currents through either galvanic isolation or via a special transformer isolation option • Such currents can adversely affect the bus's operation, rendering it unreliable or nonfunctional • Able to power external devices via the 1394 cable • Optional external power feed • 12 volts DC (when equipped with the external power option) • Full real-time synchronization between all attached devices • Support for asynchronous and isochronous data transfer

www.mindready.com

Lyrtech

VHS-ADC Virtex 4
RSC No: 30752

Virtex-4 FPGA • 256 GMACS • 152,000 logic cells • 500 MHz performance • Powerful LVDS serial and parallel interface • Serial digital intermediate frequency (DIF) interface • Synchronous LVDS ports (two LVDS pairs RX/TX) on the RJ-45 front panel,105 MBps, full-duplex, based on SerDes technology • The LVDS clock is linked to the acquisition frequency • RapidCHANNEL interfaces (1 TX,1 RX) • LVDS ports (eight LVDS data pairs and others for synchronization and control at each port) on two Samtec Q-Pair micro coaxial connectors (one RX,one TX) 1 GBps, full-duplex, based on the on-chip Virtex-4 serializer • The bandwidth is fixed and data is transferred through FIFO (refer to RapidCHANNEL specifications) • The front panel data port (FPDP-I) allows data to be transferred and high speeds between boards and can be set as input or output

www.lyrtech.com

Linear Technology Corporation

LTC4307
RSC No: 32230

Low offset bus buffer enables cascading and improves I2C reliability

www.linear.com

Motorola Inc., Embedded Communications Computing

Centellis 3000
RSC No: 32105

Motorola's Centellis 3000 Series of AdvancedTCA communications servers is a carrier-grade common platform for NEPs to develop and deploy existing middleware and applications • Integrated and validated AdvancedTCA communications server • 14-slot/19" or 16-slot/23" 12.5U form factors • Verified shelf-level thermals and PICMG standard compliance • Combined switch/control blades maximize billable application payload • Variety of payload blades available • Integrated operating environment, including Carrier Grade Linux

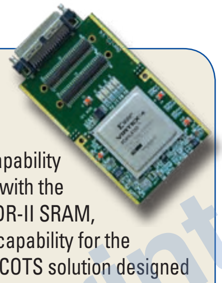
www.motorola.com/computing

Multenet Technologies

EtherPAD Digital I/O **RSC No: 31942**

The EtherPAD Digital I/O is a single port premium serial to Ethernet converter designed to withstand the harsh environments of the industrial markets • Four digital inputs, two digital outputs, and one analog input • Device network connectivity via UDP/IP, TCP/IP with SNMP MIB II protocol suite • Data logging facility with attachment mail option • Device management via Telnet, BootP/TFTP, Web Browser, SNMP, Built-in Serial configuration interface • Windows and Linux configuration utility • Web enabled allowing unit configuration and serial device manipulation via Web browser as well as ability to download custom web pages, client side Java, images, and active content to interface to serial device • Dynamic Routing and PPP-over-Serial

www.multenet.com



Nallatech

BenIO-V4 **RSC No: 31730**

Virtex-4, SRAM, and digital I/O module • Suitable for applications requiring the capability of high bandwidth, high speed external digital I/O, and SRAM memory combined with the latest FPGA technology • Combines a Xilinx Virtex-4 SX or LX FPGA, 116 MB of DDR-II SRAM, and up to 152 digital I/O lines • Provides I/O, processing, and memory expansion capability for the Nallatech CompactPCI, VME, PCI, and PCI-104 COTS FPGA computing systems • COTS solution designed for ease of use, low risk, and straightforward system integration/in-field deployment

www.nallatech.com

Octasic

OCT9600 **RSC No: 32215**

Series of voice processing modules • Accelerates time-to-market • Offers future-proof upgradability and scalability • Simplifies design process • Replaces incumbent module solutions easily • High quality echo cancellation and Voice Quality Enhancements (VQE) at extremely high densities • 256-4,032 channels G.168-2002 line echo cancellation • 128 ms tail/channel (on all channel densities) • Acoustic echo control • Adaptive noise reduction • Auto fax/modem tone detection • TFO solution available • Octasic Music Protection • Easy-to-use messaging interface • Field-upgradable algorithm • Fully PTMC compatible

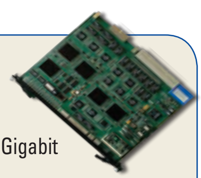
www.octasic.com

Pericom Semiconductor

PI2EQX4502 **RSC No: 31287**

A protocol-optimized signal conditioner featuring configurable input signal equalization and output signal level and emphasis settings for high-speed differential signals • Presently the highest performing device in the Re-Driver family of signal conditioning products • Supports Fibre Channel data rates of 4.5 Gbps • Re-Driver products enable transmission of high-speed differential signals over very long PCB traces or cables • Recent demo of the PI2EQX4402 transmitting PCI Express at 2.5 Gbps over 25 feet of CAT6 cable contributed to winning Editors Choice Award at the Intel Developers Forum last Spring 06 • Re-Drivers are unique among signal conditioning products as they are designed to match all the requirements of a specific protocol specification • Issues such as lane control, noise tolerance, and termination are already resolved • Re-Driver products are provided with optimizations specific for Fibre Channel, SATA, SAS, XAUI, and PCI Express protocols today

www.pericom.com



Omni Device

USPS-3000 : ATCA switch fabric **RSC No: 21288**

AdvancedTCA compliant switch fabric • PICMG 3.0 and 3.1 compliant • Base I/F: 24 Gigabit Ethernet ports • Fabric I/F: 24 Gigabit Ethernet ports

www.omnidevice.com

Pentek

Model 7140 **RSC No: 24143**

A dual digital up/downconverter PMC/XMC with FPGA • Complete software radio transceiver solution • Ruggedized and conduction-cooled versions available • Available in PMC/XMC, CompactPCI, and PCI form factors • VITA 42.0 XMC compatible with switched fabric interfaces • Two 105 MHz 14-bit A/Ds • Four digital downconverters • One digital upconverter • Two 500 MHz 16-bit D/As • 512 MB of DDR SDRAM • Xilinx Virtex-II Pro FPGA • Up to 2.56 seconds of delay or data capture at 100 MHz • Dual timing buses for independent input and output clock rates • LVDS clock/sync bus for multimodule synchronization • 32 pairs of LVDS connections to the Virtex-II Pro FPGA for custom I/O on P4

www.pentek.com

Performance Technologies

ATC6640
RSC No: 31114

Base-fabric Gb/10 Gb Ethernet switch • Fully utilizes all the advanced capabilities of the PICMG 3.0/3.1 specifications • Two completely isolated, individually managed switches • Base: 24 10/100/1000BASE-T plus two 10 Gb CX-4 Ethernet ports • Fabric: 20 1 Gb/10 Gb Ethernet ports • Wire-speed, nonblocking • IPv4/IPv6 switching and routing • Base: 96 Gbps switching speed • Fabric: 400 Gbps switching speed • Dual AdvancedMC sites • Optional onboard shelf management module • Flexible uplink and RTM options • Real-time, continuous integrity checks • Rapid Spanning Tree, Link Aggregation, VRRP, and Jumbo Frame Support • Advanced Fast Filter Processor for Wire-Speed Layer 2-7 Packet Classification and Filtering • LUA Script Language • Fully RoHS and WEEE compliant

www.pt.com

Sensoray Co

2250 Frame Grabber **RSC No: 31655**

Accepts NTSC or PAL analog video source (composite or S-video) and converts it into one of supported MPEG streams along with the optional audio (line or microphone) • MPEG1/2/4 and JPEG capture from an analog video source at D1 resolution • 30 fps NTSC, 25 fps PAL • Synchronous audio capture from a line (stereo) or microphone (mono) inputs • Motion detection • Text overlay (OSD) • Custom configurations available • Powered through USB port • SDK works with multiple units

www.sensoray.com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PIKA Technologies

Digital T1/E1 cPCI **RSC No: 32143**

CompactPCI high performance boards • Integration of voice and fax for up to 240 digital channels over quad or octal span T1/E1 network connections • Connects to TDM and IP networks • Quad or octal span • Total bandwidth of up to 12.352 Mbits in T1 mode and up to 16.384 Mb in E1 mode • Enhanced DSP support for next generation applications • H.110 compliant – up to 512 simultaneous half duplex connections can be made between any of the 4096 CT bus timeslots and any of the local timeslots • Depending on configuration, the card comes pre-configured with 4 or 8 onboard DSPs and can accommodate up to 4 V-Engines with 6 more DSPs on each daughter card • Resource based driver model • Programmable tone detection and generation for wider international support • Integrated call progress analysis • Dynamic adjustment of audio gain for improved loss and level control

www.pikatechnologies.com

PLX Technology

PCIe Switches **RSC No: 30209**

Offers highly flexible port configurations allowing optimum use of available lanes and ports • 4 to 8 ports with flexible configurations including x1, x2, x4, x8, and x16 • Provides end-to-end packet integrity, lane reversal, polarity reversal, programmable outputs, and hot plug • PEX 8508, 8517, and 8518 offer low packet cut-through latency of 150 ns and fully nonblocking architecture • Offers nontransparent bridge port for dual-host and two virtual channels for Quality of Service applications • All ExpressLane devices are compliant with the PCI-SIG PCI Express specifications • Fully nonblocking switches • Pin-compatible paths to next-generation products (higher performance and lower cost)

www.plxtech.com

RadiSys Corporation

RMS420-5000XI **RSC No: 31188**

New embedded server featuring Dual-Core Intel Xeon processors and superior performance for data processing, image processing with high-res display, and combined applications • High-performance server with two Intel Dual-Core Xeon processors and Intel Core architecture for reduced power consumption • PCI Express x16 slot to support high-performance graphics cards • Long-life server with rigorous revision control • Compact: 20" depth for embedded applications • Up to 32 GB DDR2-667 FB-DIMM memory • Rack-mount and tower configurations available • Two PCI Express I/O slots (x8, x4) and two PCI-X 133/100 I/O slots • Dual GbE ports; up to three SATA hard drives; CD-RW/DVD ROM drive; one front USB 2.0 port; and four rear USB 2.0 ports

www.radisys.com

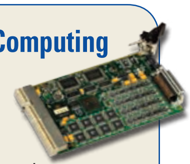
Spectrum Signal Processing

SDR-4000 WM **RSC No: 32260**

Wireless Modem (WM) • Supports black-side (IF-to-Ethernet) digitization and processing of complex waveforms • Consists of XMC-3321 dual transceiver module mounted onto a 3U CompactPCI PRO-4600 carrier card • Each SDR-4000 WM provides modem, link, and network layer processing of a software defined radio • Supports waveforms requiring low latency deterministic operation to maintain synchronization of the frequency-hopped Tactical MILCOM network by placing control on a PCI bus that is separate from the data path • Air-cooled or conduction-cooled configuration • Supports two IF input channels, two IF output channels, an internal or external 10 MHz reference, and high speed sample clock • Gigabit Ethernet, RS-232 and JTAG connectivity • The SDR-4000 WM employs a combination of two Xilinx Virtex-4 FPGAs, a TMS320C6416 DSP and an MPC8541E General Purpose Processor

www.spectrumsignal.com

Radstone Embedded Computing



ICS-1745
RSC No: 31220

High-speed acoustic ADC in 3U CompactPCI format • 8 channels (Analog Devices AD9260): 16 bits @ 2.5 MSPS • Onboard signal conditioning with programmable gain • Four input voltage ranges: 20 Vpp, 2 Vpp, 0.2 Vpp, 0.02 Vpp differential • 8 MSample onboard memory in two banks • Software drivers available for Windows, Linux

www.radstone.com

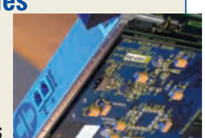
Spectrum Signal Processing

flexComm SDR-4000 TMRDP
RSC No: 32019

Off-the-shelf platform to develop and deploy their complex tactical MILCOM applications • Tactical Military Communications (MILCOM) Rapid Deployment Platform (TMRDP) • Platform equips quick response teams with an integrated platform designed for the rapid development and deployment of tactical MILCOM applications • Provides full "RF to Ethernet" functionality of a software defined radio (SDR) with support for the Software Communications Architecture (SCA) in a single 19" rack • Integrates Spectrum's high performance SDR-4000 wireless modem, a DRT4001 RF front-end by Digital Receiver Technology (DRT), a GPS receiver, and all the software necessary for tactical MILCOM deployments • Suitable for tactical MILCOM applications including ground vehicular, airborne and shipborne systems, tactical data links, beam forming, and Multiple Input/Multiple Output (MIMO) systems

www.spectrumsignal.com

Telesoft Technologies



MPAC HSL interfaces
RSC No: 31960

Increased bandwidth and performance requirements placed on modern telco networks has led to increased demand for higher capacity SS7 signalling links • High Speed Links, (HSL), are being widely deployed to resolve this issue and three different variants of HSL are offered by Telesoft's MPAC telephony blades: ATM HSL: high speed SS7 transported over ATM • HDLC HSL: ISO standard where data is organized into frames. SIGTRAN HSL: IETF protocols used to transport SS7 over IP networks • Telesoft PCI and CompactPCI MPAC telephony boards offer fully HSL and RoHS compliant solutions to OEM and developers

www.telesoft-technologies.com

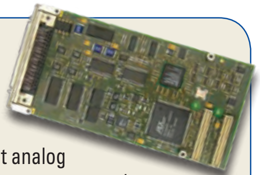
Sun Microsystems

CP3060 **RSC No: 32162**

Netra CP3060 UltraSPARC T1, with up to 8 cores and 32G of RAM • UltraSPARC T1 • AdvancedMC slot • 8 DIMM sockets • Solaris 10

www.sun.com

TEWS Technologies

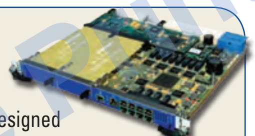


TCP467 **RSC No: 31174**

Suitable for high-density I/O in embedded applications • 32 single-ended or 16 differential channels of 16 bit multiplexed analog input, 8 channels of 16 bit analog output, 16 digital I/O lines, and a 32 bit multipurpose counter • Manual mode, sequencer mode, or external trigger for ADC/DAC • ±10 V inputs/outputs • PGA with gain 1, 2, 4, 8 in ADC • Factory calibrated gain and offset • 16 digital ESD protected TTL I/O • HD68 SCSI-3 type connector in front panel • Operating temperature -40 °C to +85 °C • Supported operating systems include Windows, Linux, VxWorks, LynxOS, and QNX

www.tews.com

TEWS Technologies



TPMC630 **RSC No: 30113**

User-programmable FPGA-based PMC module with 300,000 system gates • Designed for industrial, military/aerospace, and transportation applications, where specialized I/O or long-term availability is required, the TPMC630 provides a number of advantages including a customizable interface for unique customer requirements and a FPGA-based design for product life cycle management issues • User configurable Xilinx FPGA • Flash device in-system programmable • 32 bit PCI target interface by PLX PCI9030 • FPGA clock options: Local clock oscillator / PLL programmable clock generator (200 kHz – 166 MHz), 6 clock outputs connected to FPGA • I/O lines: 64 TTL I/O (TPMC630-10), 32 differential I/O (TPMC630-11) or 32 TTL I/O and 16 differential I/O (TPMC630-12) / TTL signaling voltage (maximum current: ±24 mA) or EIA-422/-485 signaling level / direction individually

www.tews.com

Tundra Semiconductor Corporation

Tundra Tsi109 **RSC No: 31133**

The Tundra Tsi109 is an advanced host bridge for PowerPC processors that supports PCI-X, DDR2-400 SDRAM, Gigabit Ethernet, and Flash • High performance host bridge offering best system performance-per-watt and best system performance-per-dollar • Power management features for processors and memory devices • 200 MHz 60x/MPX processor bus • Dual CPU support • Advanced pipeline architecture • DDR2 Memory Controller – up to 50% memory power savings compared to DDR • Integrated Clock Generator with optional Spread Spectrum capability • Designed for 200 MHz operation with only 8 PCB layers • Low latency • Nonblocking internal switch fabric

www.tundra.com

Tundra Semiconductor Corporation

Tundra Tsi578 **RSC No: 32223**

Supports 80 Gbps aggregate bandwidth • Up to eight 4x mode ports or 16 1x mode ports • Port frequency configuration to 1.25, 2.5, and 3.125 Gbaud with 8 b/10 b encoding • Integrated high speed, full duplex SERDES with 120-200 mW per port power • High-performance hardware multicast • Advanced traffic management features

www.tundra.com

Tundra Semiconductor Corporation

Tundra Tsi148
RSC No: 31131

VME-to-PCI-X Bus Bridge
• Sustained transfer rate of 305 MBps in 2eSST – higher system bandwidth • Multithreading – capable of a number of simultaneous transactions while optimizing bus utilization • Full featured master, slave, and system controller – can be used in any VME application • PCI-X local bus supports two loads at 133 MHz – reducing component count • Small device footprint – saves board space • Proven VME backwards compatibility – preserves legacy investment • Legacy protocols to protect existing VME investment • VME64 extensions 2eVME and 2eSST protocols to bring support for higher bandwidth • Full VMEbus system controller functionality • Interrupt and interrupt handling capability • Flexible register set; programmable from both the PCI/X bus and VMEbus

www.tundra.com

Tundra Semiconductor Corporation

Tundra Tsi350
RSC No: 31124

The Tundra Tsi350 is a PCI-to-PCI bridge that is fully compliant with PCI Local Bus Specification, Revision 2.3 • Two 32-bit conventional 66 MHz capable PCI interfaces • Ten independent secondary clock outputs to the secondary slots • Primary and secondary interfaces can be operated using asynchronous clocks • Secondary clock can either be derived from the input primary clock or supplied by an external clock source • Secondary clocks can be masked through GPIO interface during power up • Supports 4 independent delayed transactions in each direction • Supports up to nine secondary requests and grants • External arbiter support on the secondary bus • CI Power management with D3Hot support with option to disable clocks during D3Hot state

www.tundra.com

Virtium Technology

VL393T5166F-D5
RSC No: 32226

DDR2 AdvancedTCA VLP ECC Registered DIMM • AdvancedTCA VLP form factor at 0.70" high (fits vertically below 21.33 mm AdvancedTCA spec) • Memory densities available up to 4 GB • ECC support for embedded chipsets • High performance up to 800 Mbps/pin • Lead-free for RoHS compliance • Suitable for high reliability and rugged systems and field-upgrade capable

www.virtium.com

Vertical Circuits

DDR-SDRAM memory
RSC No: 31082

Dense high speed memory stacks for embedded applications • Small JEDEC outline footprint • Low inductance • Reduced propagation delay • Extended temperature range product is available • 1 Gb and 2 Gb stack are currently available • Enhanced electrical and thermal performance

www.verticalcircuits.com

Unipower Corporation

Wall mount rectifiers
RSC No: 30183

Family of six wall-mount rectifiers • Range in output power form 450 W to 550 W • Output voltages of 12 V, 24 V, 48 V available for applications without batteries • For battery-supported applications, output voltages are preset to 13.6 V, 27.2 V, or 54.4 V • Input range is the universal 85 to 264 Vac • Active power factor correction standard

www.unipower-corp.com

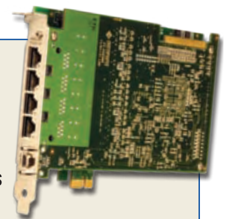
Inova Computers

USB & Video Board
RSC No: 32095

Multimedia board det integrates transfer of uncompressed HD video, audio (analog or digital), and USB over distances of more than 50 meters by using only one • Supports DVI, LVDS, and Parallel video • Resolutions 780p/1080i • USB 1.1 and USB 2.0 versions • Analog and S/P-DI F Audio • Video transport up to 50 m STP cable or 550+ Fiber

www.inova-semiconductors.com

Performance Technologies



PCE385 **RSC No: 32091**

Quad T1/E1/J1 PCI Express telecom adapter • Onboard MPC8280 PowerQUICC IIT RISC communications processor • Enabled by complete suite of software offerings • Enabled with NexusWare Core, a comprehensive, highly integrated, Linux-based software distribution that provides a comprehensive development, integration, and management environment • Software suite offers signaling and communications protocols including SIP, SS7 MTP-2, ISDN, and WAN connectivity with Frame Relay, HDLC, LAPD, and X.25 • Combined with NexusWare, operates as a fully programmable communications subsystem capable of intra-chassis communication using the H.100 bus • Suited for both PSTN and IP telephony systems built on the PCI Express architecture that are capable of handling large volumes of voice circuits for protocol processing or for transfer to the H.100 bus and the PCI Express bus

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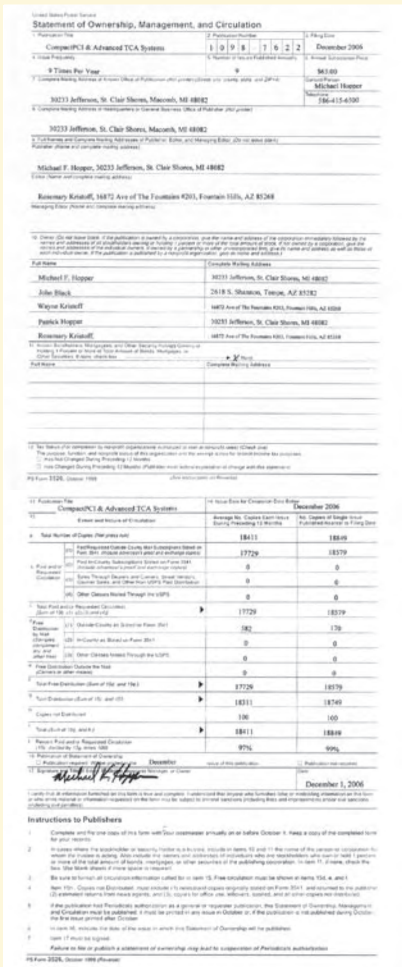

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