Centurion Timeline ( added dealer cities - Ken R )

1971 ~ 1973:

Warrex started in San Antonio Texas.

Somewhere in here it moved to Dallas.

Warrex computers created by John Rex Warren and Bud Smith

Bud was John’s brother-in-law

John was writing the random-access operating system (JCL and all that)

Warrex approached Eldorado Electrodata to use their hardware

> Eldorado had a decent bit of hardware, but no real software

> Warrex and Eldorado came to agreement that Warrex would license the hardware

> Once Eldorado went bust, Warrex obtained rights to hardware through litigation

First CPU4 was released based on the EE200

> The EE200 had some random-access issues and required redesigning a bit to work better with Hawk

1974 ~ 1975:

Warrex was involved in some litigation with IBM in 1974, unsure as to what

1975:

Ken Romaine joins Centurion as 6th employee and first non-family employee to

> Ken worked with Centurion from August 1975 to March 1986

Warrex OEMed CPU1, 2, 3 and DMA cards from Fetter Data Systems and what we called the Hawk disk controller model “A” Disk Controller.

> The Fetter model “A” Hawk Disk Controller had design problems causing data to be written in the wrong disk sectors from time to time which forced Warrex to design our first PCB’s the DSK/AUT and DSK-II ( p/n 1001 & pn 1002 ) to Read the Sector Address “before” writing data into a sector, no more data in the wrong sectors on the Hawk. ( Ken )

Warrex designed its first memory PCB to replace the ee200 4KB core memory & Fetter’s 16KB memory cards.

> The Warrex 32KB memory p/n 1003 was a 4-layer PCB using TI’s 22 pin 4K bit DRAM memory chip. The 2nd enginning prototype 32K memory burned up damaging all DRAM chips because of a mod-wire error on the refresh timer circuit.

Warrex designed its first 4-Port MUX, Parallel Printer Interface.

1976:

Warrex built its own wood cabinet tops and CRT tables in our woodworking shop.

> The shop caught fire and nearly bankrupted the company. We lost the CPU3 PCB artwork on the drafting table at the time of the fire.

>As a result, Warrex designed replacement 4-layer PCBs for the CPU1, 2, 3 and DMA cards it had purchased from David Fetter at Fetter Data System. Now Warrex had it own CPU1, 2, 3 and DMA cards now on 4-layer PCB’s not 2-layer PCBs.

John Rex Warren killed in car crash

> Driving a 1975 C3 Corvette at triple digits through west Texas towards Odessa

> Vette had Firestone tires and Warren family got into legal battles with Firestone & GM

> Ken was supposed to join, but he had service calls in East TX that kept him to Midland / Odessa. (whoa!)

After John’s death, the company name changed from Warrex to Centurion

> Centurion is the “Guardian of the People’s Data” (according to Bud)

> Rumor is the employees liked the cop movie “The New Centurions”

1977 ~ 1978:

Steve Jobs and Bill Gates were at Comdex ’77 and approached Bud about implementing a GUI

Bud declined

The CPU5 was developed Steve Webking

> Much more evolved ISA based on AM2901 and microcode

> Two cards sandwiched together (like the FFC)

Jim McGee and Steve Pool were the OS Software engineers at around this time.

1979:

The CPU6, developed by Steve WebKing, releases in the Centurion 6000

Centurion Moves to JayEll Dr, from Sherman Dr. in Richardson.

Centurion attends large minicomputer seminar in California

> They did well with good software packages and strong hardware

> EDS was in attendance and first heard of Centurion here

Smart MUX cards developed (date?)

> AM2901 based MUX cards that allowed up to 16(?) serial connections per card (never completed)

56 bit Fire-Code Checksum CMD Drive Controller Developed (7 or 8 board set) by Bobby Christenson and Tommy Atwood

1980:

The chassis design changed to get UL certification

Bud Smith met with an EDS representative who started the process of buying Centurion

> This process was a bit long and convoluted because Bud wanted to protect his employees

> Bud particularly wanted to protect Centurion dealers.

Single Board CMD drive controller with simple CRC checksum developed by David Williams

8-Inch Wren Disk Drive W/Floppy Interface Developed by Tommy Atwood and David Williams

Centurion Reel to Reel Tape Drive interface developed by David Williams

1981 ~ 1982:

Early January 1982, EDS purchases Centurion for enough money to make Bud agree

During this time Centurion grew to be quite large, totaling 300? Employees

The CPU6 was still going strong being further developed by Steve Webking

> AM2901 based architecture with 56-bit microword

> MORE SIMPLE SPECS HERE

Centurion 8-inch Disk Drive Interface and Streamer tape interface developed by David Williams

Centurion also started development of the MicroPlus

> 4-Slot Backplane - David Williams

> Membrane switch Front panel - David Williams

> Dual Floppy or 8 inch Drive with Floppy or 8 Inch Drive with 8 Inch Streaming Tape Drive

> 64k, 128K, or 256k Memory Board - Steve Webking

> The MicroPlus was sold to CUDNA Credit Unions

Centurion was also designing an Intel based PC for EDS that never made it to production

> Engineering was told that EDS used it as leverage to get reduced pricing from IBM

Somewhere in here Centurion did a port of Unix to the CPU6

> However (as I remember it) there wasn’t enough memory and all they could do was boot Unix, not enough memory to get it to run any applications.

> Neither Jim nor Steve knew anything about Unix.

1983 ~ 1984:

Bad blood starts to form between Bud and Ross Perot

> Ross wanted to shift Centurion to pure GM work

> That would screw all the Centurion dealers

Bud and Ross met on a weekly basis and the meetings got worse and worse

Finally, Bud quit in a fit of anger and that really pissed Ross Perot off

8-Port Mux board developed by David Williams

The Counterfeiting Scandal:

> First counterfeit system seen in Tulsa, OK office and reported to EDS management around 1984

> First counterfeit circuit boards showed up in the EDS-Centurion repair depot

> Counterfeit PCBs came from the Ft. Worth dealer for a Dallas area customer system

> EDS starts looking into the counterfeiting problems

> Some of the Centurion “PCB vendors” were selling blank PCB’s to people at a Centurion dealer to build systems.

> The dealer would solder the PCBs up at home, put into generic case with a Hawk and sell

> Once enough proof was found, Ross Perot rained down hellfire

> Centurion had to remove all counterfeit cards and replace with genuine cards

> All counterfeit cards were taken by EDS and presumed to have been destroyed

At this point, Ross Perot is fed up with Centurion

> Between counterfeiting scandal and Bud being a jerk, he’s done

Centurion was sold by EDS to ZTron, the company Bud Smith started after leaving Centurion

EDS sold hardware and software rights to ZTron just to be rid of it and the dealership base

ZTron began development of the CPU7

> CPU7 was a Multibus-1 based system

> 4M of Memory

> Of the shelf controllers and backplane

> Switching Power supply

1985:

Perot had it in for Bud Smith, and waged a war of attrition against Bud

> War was waged with incessant legal battles over minor things

> As Bud tells it, this was intended to bleed Bud dry of time and money until ZTron went bust

Centurion found a group of Doctors out of Tulsa that put up 1M$ to get them past the EDS issue

1986:

EDS went and somehow withdrew the 1M$ for missed payments forcing ZTron into bankruptcy.

ZTron went bankrupt and Centurion was sold to Buddy Cruze of Cruze Computers

> Centurion Dealers Computer Corporation (CDCC) was formed as a subsidiary of Cruze Computer Systems

Cruze Computers still exists today and currently holds the Centurion IP

Cruze developed the CPU9

> The CPU8 was never used as a “label” for marketing reasons

> The CPU9 was simple a cleaning up and streamlining the microcode of the CPU7, and represented a 30 to 40 percent increase in speed over the CPU7

> The CPU7 was designed by an engineering firm in Houston using tools that optimize completing the project expeditiously and not for product performance

> The only real difference in the CPU6 and CPU7 electrically was the bus interface and how memory was accessed

The OS saw major changes due to a change from 400 byte sectors to 512 byte sectors

A reverse compiler for the CPU7 microcode was developed by David Williams

1987:

Centurion Dealers Computer Corporation (CDCC) was moved to Knoxville Tn.

1988:

CDCC was moved from Knoxville to the Industrial Park near Maryville Tn.

Somewhere in here Dr. Jim Lemmee joined CDCC from the Indianapolis Dealership.

1991:

CPU 10 was developed.

> The CPU10 was a 16 bit bit-slice CPU

> Simple instruction prefetching

> Simple data caching.

> Upward Compatible with the CPU7 and CPU8

> Some Instruction set enhancement

1992:

Centurion ported to the X86 environment including 8X287 integer emulation

All drivers for new PC and Multibus interfaces implemented Jim Lemmee

All operating system modules ported to X86 Jim Lemmee

Integer operations w/wo 80287 implemented by David Williams

All CPL, JCL, Supported applications (GL, AP, AR, etc) converted to X86 Jim Lemmee and David Williams

> Configurations were:

\* Single PC as Single user

\* PC as multiple users, using 4 port smart multiplexers

\* Multiple users using a network of PCs

\* Multi-bus 1 using the 80286 w/wo the 80287

The Centurion CPU6 hardware side of things was completely retired

Many enhancements to CPL to give it more C functionality

A version of this port is still in use today with two customers of Cruze Computers

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[ Warrex / Centurion / EDS-Centurion / ZTRON MFG-HQ buildings in Dallas area 1975-1986 ]

1974-1976 Warrex - North Central and Arapahoe, Richardson, TX

1976-1979 Centurion - @ old Daltile building Coit and Central, Dallas, TX

1979-1981 Centurion 1780 JayEll Dr, Richardson, TX

1981-1984 EDS-Centurion 1780 JayEll Dr, Richardson, TX (after 1986 EDS - T.P.D. site)

1984 ZTRON - South Sherman, Richards, TX

1984-1986 ZTRON - Bethany Drive Allen Texas ( and bankruptcy )

1986 - ? Cruze Computer (near) Knoxville Tennessee

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Dealers office locations:

San Antonio, TX ( was a sister office of Warrex in very early days then a Centurion Dealer )

Dallas, TX

Ft. Worth, TX

Temple, TX

Odessa, TX

Victoria, TX

Tulsa, OK

Ok. City, OK

Little Rock Arkansas

Baton Rouge Louisiana

Metairie Louisiana

Lakeland Florida

Miami Florida

Smyrna Georgia

Charlotte North Carolina

Cherry Hill New Jersey

Smithtown New York

Cincinnati Ohio

Knoxville Tennessee

Indianapolis Indiana

Denver Colorado

Salt Lake Utah

Burlingame California

Orange County California

Honolulu Hawaii

Bahrain, Kingdom of Bahrain

Mexico City Mexico …. ( end of Dealers that I recall. Ken R. )

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