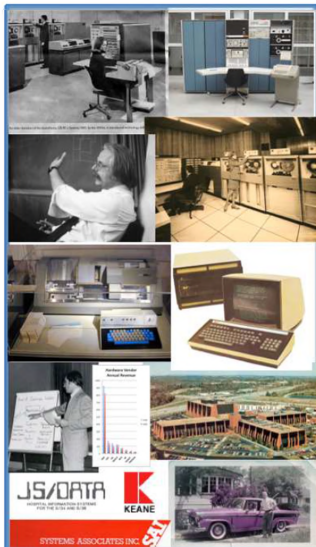


# "H.I.S.-tory"

by Vince Ciotti

## Introduction & Credits



Extract from:  
[https://histalk.com/download/HIStory\\_complete.pdf](https://histalk.com/download/HIStory_complete.pdf)  
Published 2011 - 2015 based upon content

Sheet 3 of 1438

# HIS Vendor Rank & File

- Veterans of other HIS pioneering firms who shared their stories:
  - **Gerber-Alley** – Brian Curnutt, Karen See, Brian Robson, Connie Williams, David Salazar, Mark Edelstein, Dave Wellons, Karl Kiss
  - **AR/Mediquest** – Paul McVicker and Kalon Mitchell
  - **JS Data** – Steve Kilgus, Ron Young and Tom Aikens
  - **Meditech** – Bill O'Toole, former inhouse legal counsel
  - **CliniCom** – Marjorie Rodell and Don Gilchrist
  - **Eclipsys** – Mike Smeraski, formerly of SMS & HBOC
  - **DATX** – Gary Lakin who worked for Tim Zinn & Lou Phillips
  - **Lockheed** – many thanks to these ladies who kindly corrected a number of egregious errors in one of my earliest stories on MIS, which made me much more thorough in my ongoing research:
    - Jane Baseflug, Connie Berg, Edith Caesar, Ann Farrell, Deborah (Debby) Kohn, and Elizabeth West.

**“H.I.S.-tory”** by Vince Ciotti

**Episode # 8:**

# **Clinical Mainframe Systems**

**How Mike Mulhall’s dream eventually came true...**

# IBM's "H.I.S." Pilot

- **IBM's** dominance of mainframe hardware had one real soft spot: *software*! To keep ahead of the BUNCH group, they started a daring project in the mid 60s at:
- **Monmouth Medical Center**
  - About 400 beds then, in Monmouth, NJ (today, part of St. Barnabas...), that signed up with **IBM** to pilot a complete suite of *clinical* software, to compliment the growing array of financial systems like AR, GL, etc.
  - Monmouth was one of the first “early adopters,” known then as a “development site,” for **IBM's** foray into automating clinical systems.



# Mike Mulhall

- Armed with MBA from Notre Dame, a brilliant mind, winning smile, and more charm than a leprechaun, Mike was **IBM's** young project manager at Monmouth (he later became **SMS'** VP of Installations). He was truly an HIS pioneer and wonderful man, sadly long departed...
- Mike regaled us at later **SMS** ID classes with stories of life on a nurse station, where **IBM** got him unfettered access to the ins & outs of daily hospital clinical operations.
  - His task was to automate the daily activities of nurses & physicians,
  - Using “modern” 1050 terminals like the one pictured on the right on Monmouth’s busy nurse stations



# The First Clinical Apps

- After studying the way physicians ordered tests, meds, procedures & supplies, Mike started with order entry, although it had no such name back then – just “HIS.”
- He realized OE was key to communications within a hospital, and lent itself to computerization of the “paper chase” that snarled hospitals then & now:
  - MDs scribbling orders on an order sheet in the chart
  - RNs “red-lining” each order as they transferred them to:
  - Multi-part paper requisitions or “zip sets” which had carbon paper between each sheet, pulled apart to create:
    - An *original* copy for the chart, proving the RN did her part,
    - A copy that was hand carried to the ancillary department,
    - A copy for the Business Office known as a “charge ticket.”

# “Point of Care” in the 60s

- Mike decided to use **IBM's** 1052 terminals (based on their ubiquitous “Selectric” typewriters) to communicate these orders directly between nurse stations and ancillaries, with *no* paper requisitions or charge tickets!
- Problem was, 1050s required a lot of weird keystrokes for the crude telecom software of the 60s, like hitting 2 keys simultaneously for EOB (end of batch) and EOT (end of transmission) after *every* order.
- When nurses rebelled at learning all these complex keystrokes, Mike came up with plastic overlays to lay across the keyboard, one for Lab, RX, etc.



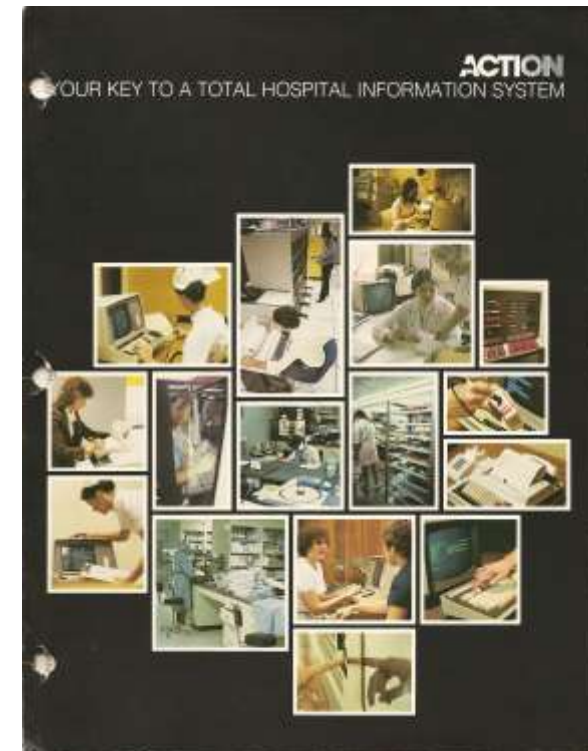
# Nursing “Revolution”

- To no avail: most RNs of the 1960s had never even *seen* a keyboard, let alone a computer terminal, and only Ward Clerks (today’s Unit Secretaries) knew how to type...
  - (sound like today’s MDs typing into CPOE?)
- So Mike next tried a cadre of “Kelly Girls” (that’s what they were called in those days!) to sit in the basement with headsets and rapid typing fingers.
  - (sound like the “scribes” MDs use for CPOE today?)
- Each floor had a “hot line” phone directly to *their* Kelly Girl, who answered and typed what the RNs told them to.
- Needless to say, all these costs soon killed the project...
  - (boy, doesn’t *that* sound familiar!)



# Monmouth's Legacy

- Mike brought this priceless experience to **SMS** (Shared Medical Systems – today's Siemens), where he was instrumental in helping design and guide a whole host of eventual clinical successes, including:
  - Unifile (its own story later)
  - ACTIon (a MedPro competitor)
  - Action 2000 (mainframe success!)
- Of course, Mike and **Monmouth** weren't the only ones pioneering clinicals...
- Stay tuned for the next installment of many other early mainframe classics, some of which are *still* running today!



**“H.I.S.-tory”** by Vince Ciotti

**Episode # 8:**

# **Mainframe *Clinical* Classics**

**How Mike Mulhall’s dream eventually came true...**

# Clinical Mainframe Classic

- While **IBM's** "HIS" pilot at Monmouth was floundering, several other mainframe systems succeeded in making clinical software take flight, the most famous and long-lived:

- Lockheed**

- Yes, *the* Lockheed Missiles & Space Company, that built rockets for NASA in the early 60s,
- Actually got its clinical system start when the US space program declined in the late 1960s,
- And they found themselves with hundreds of engineers in their Sunnyvale, CA, facilities,
- With a paucity of "down-to-earth" projects to apply their high technology expertise to.
- So way back in 1967, Lockheed teamed up with one of the biggest names in Healthcare to build a "Medical Information System" (MIS).

- This classic Lockheed ad sold recently on eBay:

**HOSPITALS ARE TRYING TO CURE THE COMMON HEADACHE.**

Continued from page 10

Lockheed's Medical Information System, MIS-1, will lead the hospital's computer revolution.

It automatically handles eight of the ten essential administrative tasks needed to manage a blood bank. It lets a nurse print lists of the patients and their medical records in under 30 seconds.

MIS-1 is a system of video terminals connected through a common bus system to a central computer. Using it, a doctor can get a complete medical record in under a minute. And he knows the information won't be lost. He can maintain it. That's the main reason for its success.

MIS-1 can handle all blood banking and testing, from patient care, including nursing notes, blood bank records, and large scale inventory of the pharmacy.

It makes even blood production and distribution more productive. What makes blood one of the most important parts of the body.

And it even works for a hospital's medical MIS-1 system. The only system in a hospital that can handle all the data.

It's not the system that can handle all the data. It's the system that can handle all the data.

Lockheed Information Systems

San Francisco, New York, Philadelphia, Chicago, Indianapolis, Denver, Boston, Washington, D.C., Los Angeles



# MIS Pioneers

- Some of the most famous names in HIS-tory worked with Lockheed's amazingly precocious MIS system *after* it was later sold to Technicon, including such notables as:

- Bill Childs

- Recent recipient of CHIME's lifetime award, founded "Computers in Healthcare" the *first* HIS rag, circa 1980



- George Kennedy

- One of the *first* HIS consultants ever, formed The Kennedy Group in '78, sadly passed away far too early...



O. George Kennedy, PhD  
Founder, The Kennedy Group

- Ron Johnson

- Renowned HIS maven, and author of numerous studies on HIS vendors, Ron sold for McAuto in its early years.

- Ralph Korpman

- Early CMIO before there was such a term, Dr. Korpman went on to create UltiCare, it's own HIS-tory later...



# Mayo Clinic(al) Pilot

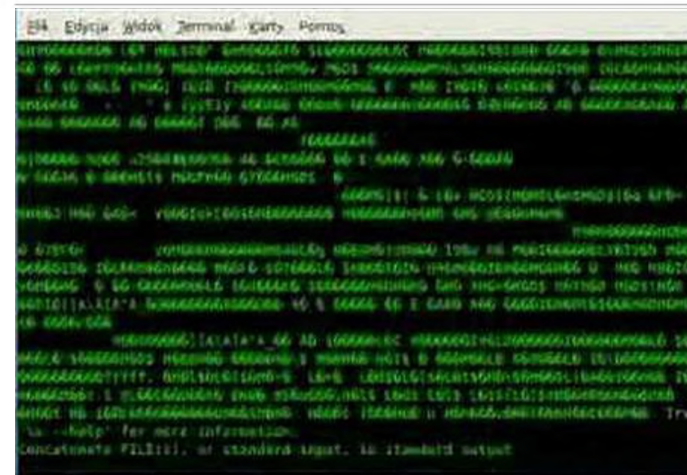
- Seems the Mayo Clinic has been in the forefront of Healthcare forever, and they became **Lockheed's** first development partner back in 1967 to lay the groundwork for MIS clinicals.
- **Lockheed** sent its best and brightest (?) off to Mayo's HQ in frozen Minnesota to start work on their version on the same Order Entry app that had stumped **IBM** at Monmouth, only this time with *MDs* doing the order entry (Mayo's are salaried!)
- Whether it was the weather or not, the Mayo CPOE project froze solid, and **Lockheed** found a far hotter prospect at El Camino Hospital in warm southern CA...
- Why El Camino? They were the first in a long string of "pilot" sites who trail-blazed the way to today's E.H.R.s...



# MIS' Technical Breakthroughs

- **Lockheed's** brilliant engineers created several technological innovations that live on to this day in our “modern” EMRs:

- **Matrix Coding** - Since 1970 programmers had little prior experience with HIS systems, they built this ingenious tool for hospital users to create their *own* screens for ADT, orders, etc. - the “**screen painter**” of today's systems! For CPOE, this enabled MDs to build customized order sets decades long before Zynx...



- **Video Matrix Terminals** – if you remember the keypunch cards for data entry we talked about last week, then a **CRT** (Cathode Ray Tube) was a miracle, manipulated by **light pens**. Lockheed probably borrowed from defense systems. Solved the problem of teaching clinicians how to type decades before Apple popularized (stole?) Xerox PARC's mouse!





# MIS-ogyny

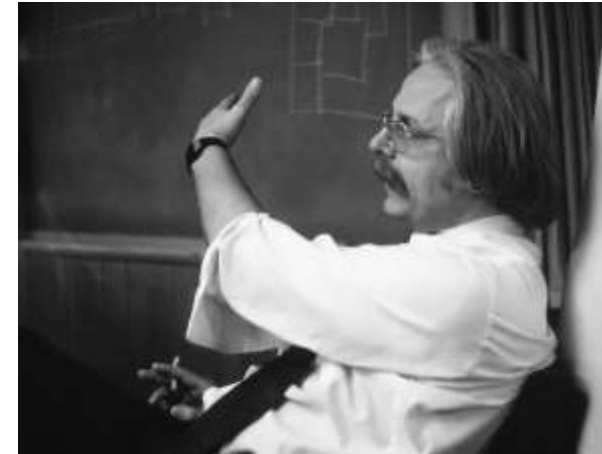
(Sorry for these sick puns, but I *am* a frustrated English major...)

**MIS** was sold & renamed repeatedly over it's 40+ years:

- Technicon
  - Like later aerospace giant McAuto, Lockheed eventually abandoned healthcare & sold **MIS** to them.
  - A major Lab instrument player, Technicon had a savvy clinical sales team that made over a hundred sales before selling to:
- Revlon
  - Hardly a *cosmetic* change, Revlon bought **TDS**, then sold it to
- Alltel
  - The communications giant around Y2K, who made **TDS 7000** a far better version than **TDS 4000**...
- Eclipsys
  - Acquired it next, re-named it **E7000**, before they were bought by AllScripts in 2011...
  - *And it still runs **today** (2012) in a handful of hospitals!!*
- Whiteheads
  - This family-owned business bought **MIS** from Technicon, but saved its name as “Technicon Data Systems,” or **TDS** for short.

# Early “Departmental” Mini Vendor

- We’ll start with one of the earliest departmental system vendors, that grew over time into a total HIS system.
- To appreciate its roots, we have to go back to one of the earliest mini hardware/software development projects:
  - Massachusetts General Hospital, where Octo Barnett’s Lab of Computer Science (LCS) used the first DEC PDP minicomputers to develop one of the very first time-sharing systems (ironic?)
    - LCS’ software was called “**MUMPS**,” short for **M**assachusetts **G**eneral Hospital **U**tility **M**ulti-**P**rogramming **S**ystem.
- Among Octo’s hard-working team were:
  - Dr. Robert Greenes – who went on to form American Health Systems, and
  - Neil Pappalardo – a long-haired (who wasn’t in the 60s?) chain-smoking (ditto) project engineer on the right, who went on to form...





# Medical Information Technology

- Odd name: was Neil thinking of his alma mater - **MIT**?
- Anyway, the firm's nickname became not "**MIT**" but "**Medit**tech," and it's current mega-size makes it easy to forget its very humble roots as a *departmental* system:
  - At first, **Medit**tech was a software programming shop, writing MUMPS code to automate phone directories, Sheraton hotels, and even the NYC prison system! First hospital client was:

- **Cape Cod Hospital** — whose daring Pathologist chose fledgling Meditech to write a Lab system running via a teletype machine over a dial-up phone line via an acoustic coupler, time-sharing on a DEC PDP-15 running at the Meditech facility in nearby Cambridge, Mass.

(Cape Cod stayed with Meditech 'til 2010...)



Pictured above, from left to right: Stephen J. Guimond, Treasurer, Cape Cod Hospital; John E. Kilroy, Director of Information Systems, Cape Cod Hospital; and William F. O'Toole, M.D., Cape Cod Hospital. O'Toole was responsible for the initial involvement with MEDITECH 20 years ago. At far left is one of the many color terminals supplied by MEDITECH.

# Small World!



- If you're a regular reader of HlStalk, you've seen a series of *excellent* articles on HIS legal matters by an attorney named Bill O'Toole of the O'Toole Law Group (781/934-7400) in Duxbury, Massachusetts.



- So what's this got to do with price of eggs in Mass? Well, guess who's *father* was William F. O'Toole, Pathologist at the very Cape Cod Hospital that was Meditech's first hospital client! Notice the family resemblance?
- After over 40 years with Meditech, Cape Cod finally switched to Siemens Soarian recently. Wonder if they are finding similar "teething" problems to another relatively new system?
- I bet Junior negotiated them a good deal!

# Meditech Evolution

- **Cape Cod's** saga outlines much of Meditech's HIS-tory:
  - 1971 = CCH converted to Meditech's "MIIS," their proprietary variant of MUMPS, and added four Infoton "Vistar" CRTs and two slaved character printers (UNIVAC DCT-500). It took a full minute to print a single patient summary report (but far shorter than a clerk could ever {mis}type one!)
  - 1979 = CCH converted to another generation of the LIS and **Meditech's** new MIIS (Standard) operating system which ran on a DG Eclipse C330 mini.
  - 1984 = CCH replaced their shared financial system with Meditech's complete MAGIC "HCIS" system running on five DG MV6000 minicomputers, with 300 devices and five gigabytes of storage. Plans were to move to DG's new RISC machines in the future (MV10000 series).
- I first encountered **Meditech** in the early '80s when a NYC mainframe vendor I was working with partnered with Meditech to propose *their* clinicals (by then, an LIS, RX, RIS, and Orders & Results) with *our* financials. Luckily, the hospital didn't buy this "odd couple," but I noticed how quickly Meditech added their own financials a few years later...



# “The Kennedy Group”

- O. George Kennedy was an early member of the Technicon team – remember the pioneering MIS (Medical Information System) EMR?
  - Other early HIS-tory heroes who worked at Technicon included Dr. Ralph Korpman of later UltiCare fame, as well as the founder of our next Boutique firm who we’ll meet in a few more slides...
- I first met George at HIS Inc. in Brooklyn where he visited us for a look at our mainframe software – I can still see his glazed eyes around 4PM in the afternoon after watching 8 hours of demo screens...



*O. George Kennedy*

- George was a Ph.D. and leveraged his deep knowledge of the HIS industry to build The Kennedy Group, founded in Chicago in 1978.
- When I left HIS Inc., I considered working for him at \$400 a day (which he billed out at \$800 per day) – it seemed a fortune at the time, even after the 50% mark-up! Of course, today...

# Ron L. Johnson & Associates

- Ron worked at Technicon and was a McAuto super-salesman in the 1970's before he formed his consultancy.
- His claim to fame was to consult to *vendors*:
  - He wrote a series of annual reports starting around 1984 that profiled leading vendors:
    - Products, pricing, history, strategy, etc.
- I remember buying one once for some vendor, and marveling at the wealth of detail. Unlike SIDA's Guide that covered *hospitals*, Ron dug deep into *vendors*, including **strengths** & **weaknesses**.
  - Which was challenging as we vendors always felt he never had enough of our former, and far too many of our latter...
  - and vice – versa about our nasty, weak, pathetic competitors!
- But Ron always told it like it was, to his great credit, and was still working as of just a few years ago. Maybe he still is today?!





# H.I.S.-tory

**by Vince Ciotti**

# Episode #92:

# Allscripts

# Part 1

# HOSPITALS ARE TRYING TO CURE THE COMMON HEADACHE.

Communications.  
It's a drama, really, in every hospital and university in the country. And hospitals haven't stopped it.  
Look what happens when you're a patient and your doctor wears your headband:  
(1) He wears the video. (2) The video records it in fast and slow. (3) The video transmits it to the lab clerk. (4) The lab clerk records it on a spectrum, pick-up line. (5) A machine, somewhere, then draws the curve to 100 Hz per frame the test. (6) He records the results. (7) The lab clerk puts the results in the lab's permanent records. (8) The machine is killing tape in the business office. (9) The video is kept in your drawer and (10) needs you to look to the curve's end to see where.  
Twice a day. Take it slowly, communications—information handling.  
That's for a simple blood test. Most complex operations take many steps. More time. More money.  
Little wonder that recording and scanning information, usually bought by the work side of a hospital, is the bill you pay.  
When it comes down, doctors and nurses.  
Not the fact that our hospitals have been prohibited to operate any system without new rules. Dominant information have been made as medical care, even in hospital organizations.

Control.  
Lockheed's Medical Information System, MISA, will cure the headache. Permanently.  
It automatically handles eight of the ten medical operations every step involved in complex a blood test. It lets a nurse print data out of the computer and from medical people in the center of the patient's.

MISA is a variety of video cameras connected through a private, fast, regional computer. Using it, a doctor's image is sent through a fiber-optic cable and through a patient's fast, precise, computerized records. And he knows his information won't be lost. Or misinterpreted. That's because most information is sent, sent, sent.

MISA is now handling all hospitaling and testing, from nursing care, automatic scanning, and more which patient's whole, and keeps take on, hospital in the pharmacy.

It makes every health professional in every department more productive. What's more, it's one of the most and best one to patients.

And it costs nothing, too. It's helped to build a MISA system. The only expense is a monthly maintenance, which can be much less than the savings.

If you'd like to know more about how MISA can help your communications, write to: Mr. E. E. Van, Lockheed, P. O. Box 324, Torrance, California 90509.



**Lockheed  
Information Systems**

San Francisco, New York, Philadelphia, Chicago, Indianapolis, Denver, Bay, Washington-Bethesda, Los Angeles

# 5th of *Today's* Leading HIS Vendors



- This week we continue the HIS-tory of *today's* vendors with **Allscripts**, whose 2012 annual revenue of ≈\$1.4B places them in 5<sup>th</sup> place:

1. \$3.2B = McKesson, née HBOC = Walt Huff, Bruce Barrington, & David Owens
2. \$2.6B = Cerner, *still* run by Neal Patterson, co-founded with Cliff Illig
3. \$1.8B (est) = Siemens, née SMS: Jim Macaleer, Harvey Wilson & Clyde Hyde
4. \$1.5B = Epic. Gee, I have to wonder, just **who** was it who founded them?
5. \$1.4B = Allscripts, née Eclipsys, also founded by Harvey Wilson of SMS.
6. ~~\$850M (est) - GE Healthcare, née IDX/PHAMIS: created by Malcolm Gieser~~
7. ~~\$597M = Meditech, *still* run after all these years by Antonino Papallardo~~
8. ~~\$375M = NextGen: née Quality Systems Inc. founded by Sheldon Razin~~
9. ~~\$183M = CPSI, founded by M. Kenny Muscat & Denny P. Wilkins (**who??**)~~
10. ~~\$156M = **HMS** (Healthcare Management Systems), Tom Givens & John Doss~~
11. ~~\$150M = Keane, parent giant by John Keane, but HIS div. built by Ray Paris~~
12. ~~\$106M = QuadraMed, née Compucare, founded by Sheldon Dorenfest~~
13. ~~\$75M (est) = Healthland, formerly Dairyland, founded by Steve Klick~~

# Complex Roots



- Some of you may be scratching your heads over that cover ad: what on earth does Lockheed Aircraft Corporation got to do with **Allscripts**?
- Truth is, with many of today's top vendors, the story gets to be a very long and complicated one as most built their product lines through acquisitions of other firms, who themselves made many acquisitions... Why I hope this HIS-tory series is so interesting – at least it sure is fascinating to trace through my old rags, ads & files!
- Allscripts roots go way back to the 1960s when **three** high-tech aerospace companies led the charge into hospital *clinical* systems:
  - Martin-Marietta – where **GE's** PHAMIS got the inspiration of using Tandem “Non-Stop” computers.
  - McDonnell-Douglas – whose automation division in St. Louis developed “HPC” on a shared IBM 360.
  - Lockheed Aircraft Corporation – star of this week's episode and their Medical Information System (MIS).





# Lockheed's "Frozen" Start

- Bill Childs, another HIS-tory hero and one of the early pioneers on our industry, relates Lockheed's early start in an interview with Health Data Management magazine in September, 2010, that describes yet another "frozen northlands" start for an HIS:
  - *"The story of how this magazine came to be actually begins in the **1960s**. I was at Lockheed Missiles & Space Company in Sunnyvale, Calif., when a few adventurous entrepreneurs gathered to consider building a medical information system (MIS) and a business office system (BOS). At some point, I drew the short straw to head up the development of the financial information system. Actually, this set very well with me because our clinical team was sent off to the Mayo Clinic in Minnesota in the dead of winter in 1967 to study the possibilities of an electronic medical record (EMR) and computerized physician order entry (CPOE) system, along with work-flow design and clinical process optimization."*

# Mouse “Pre-Cursors”



- Why do I love that pun so much? Anyway, one of Lockheed’s most innovative MIS components was a small piece of hardware that predates Apple’s “borrowing” the idea of their 1980’s mouse from Xerox’s “PARC.”
- Lockheed’s engineers probably borrowed the idea themselves from one of their 60’s defense projects like the one in the lower left, but its use in an EMR & CPOE was brilliant, as typing on a keyboard was as anathema to as many clinicians yesterday as it still is today!
- In today’s world of ubiquitous iPads, we take touch screens for granted, but in the late 60s, it was brilliant!



- Here’s an MD using the MIS light pan to select a test at El Camino:



Nelson Buchanan watches as George Ting, M.D., enters orders directly into MIS for an ICU patient.



# Daring Pilots!?



- What is it that drives “pilot” hospitals to take such a risk as being the first to de-bug a radically new & often incomplete HIS system?
  - OSF in Peoria and Walt Huff’s “Hospital Financial Control” (HFC)
  - Norwegian American Hospital in Chicago with Sentry Data
  - Cape Cod Hospital being Meditech’s first hospital LIS foray
  - Long Beach Memorial and CSC’s Tandem-based abortive HIS
  - Susquehanna Hospital in PA piloting Siemen’s Soarian
- Etc, etc, etc. Some **won**, some **lost**, with the stakes being so high! Anyway, for Lockheed, when Mayo Clinic didn’t pan out, El Camino stepped up to the plate and became one of the most famous pilot sites in HIS-tory. Somehow, they got a reputed 80%+ usage of CPOE using MIS’ “Matrix Coding” to build custom order sets per MD, and VMTs (Video Matrix Terminals) in lieu of keypunching 5081 cards.

# El Camino Details

- After 3 years of intense development, MIS finally went live in 1972. El Camino was big: 468 beds with a medical staff of 340 physicians, most of whom *used* the system! Lockheed reportedly spent over \$25M in the development, and El Camino received a National Center for Health Services Research grant to evaluate it.
- The IBM mainframe was located at Lockheed's data center, with a 2<sup>nd</sup> box at a regional center for backup support.
- The hospital had **58** VMT terminals linked via “high speed” (for then) telephone lines. The MIS clinical software was written in assembly language, with COBOL used for the financial systems (BOS).

```

KEFZOL INJ 500 MG, STAT, & THEN, Q6H
SMA-18.....
COMMON LAB TESTS
BL_CHEM      HEMA      OTHER
-----
✓MA-18      ACT(COAG TIME)  UA
  ►DESCRIP  CBC          VDRL
BUN          ►DESCRIPTION
CPK, TOTAL   ESR
CREATININE   HEMOGRAM
ELECT(SMA-6) (INCL PCV) ►OCC BL-ST
GLUC(FBS)    PLAT CT    ►CULTURE
GLUC(2HPC)   PRO TIME
LDH, TOTAL
POTASS
SGOT          ►BL BANK
URIC ACID     ►TESTS BY SPEC'M TYPE
(-----)
(PICKUP)     ►PICKUP SCHED  ►NURS
TOMORROW     ►PRIORITY    ►MEDS  ►SPEC'M
TODAY        SPM_COLLECTED ►DIET  ►MASTER
RETURN-----
ERR          TYPE      RETRIEVE
  
```



# Changes in Ownership

- Like McAuto & Martin-Marietta, Lockheed eventually sold off its HIS division, MIS going to **Technicon**, a leading laboratory vendor, who named their subsidiary “**TDS**” (Technicon Data Systems). In 1986, **TDS** was sold to a private company known as “TDS Healthcare System Corporation,” owned by John Whitehead.
- TDS was later sold to **Revlon** (*not* a cosmetic change!) who later sold it to **Alltel**, the telecommunications giant, which also used the name **Systemetrics** for its IT subsidiaries.
- Over time, about 250 of the largest and most prestigious hospitals implemented **TDS** under its various names & owners, and it earned many accolades as *the* leading HIS of its day.

Have You Heard About  
**TECHNICON**  
Important Things Are  
Happening Here!

- **TECHNICON** is the leader in the field of **medical information systems**.
- **TECHNICON** is looking for individuals who are interested in improving the quality of health care delivery.
- **TECHNICON** offers a small company atmosphere, a large machine on-line programming environment & a commitment to professional growth.

## HARDWARE ENGINEERS

You will be responsible for developing hardware specifications for equipment used in the **medical information system**. You will also evaluate and provide hardware design for external sources & provide technical assistance for new & existing customer contracts. Position requires experience in hardware digital circuitry design and/or **system** integration of computer equipment. Your ability to document procurement specifications and technical descriptions and interface with outside vendors necessary.

## DOS/VS SYSTEMS PROGRAMMER

Challenge yourself with this newly created position as a Systems Programmer. You will work with our applications programming specialists and our data center staff in the investigation, planning & installation of new IBM hardware & software and new **TECHNICON** software. Position requires 3-5 years experience with DOS/VS **system** programming & maintenance. Knowledge of Power/VS, RJE, DOS/VS Sygen, ALC & your good communications skills are essential; exposure to COBOL & VM 370 desirable. Leadership and problem solving abilities are keys to this opportunity.

**TECHNICON** is a company with long-term, stable growth, competitive salaries and comprehensive benefits. Please send your resume, including salary history, or contact Rita Olde in our Personnel Department, at **TECHNICON**, 3255-1 Scott Blvd., Santa Clara, CA 95051, 408/727-8400.



## TECHNICON

Medical Information  
Systems Corp.

# A Class (pre-KLAS) Act

- In the 1980s, McGraw Hill polled users of leading HIS vendors to rate their systems on a 1 to 5 point scale. The chart below shows how Technicon just blew away the alternative systems of the time:
- In case these acronyms stump your memory:
  - DCC = Dynamic Control Corporation , Lasky & Pomerance's SYS38 mini
  - EDS = Ross' "Electronic Data Systems" (pre- "Perot Systems")
  - HBO = Huff, Barrington & Owens (MedPro).
  - SAI = Systems Associates Inc.

	1986	1985	1984
<u>Vendor</u>	<u>Mean</u>	<u>Mean</u>	<u>Mean</u>
DCC	3.86	3.47	4.00
EDS	3.25	3.29	3.57
HBO	3.14	3.68	3.77
IBM	3.29	--	--
McDonnell-Douglas	3.54	3.53	3.68
Meditech	3.67	3.67	4.17
NCR	3.33	3.40	--
SMS	3.52	3.84	3.65
SAI	3.58	3.60	2.67
Technicon	4.43	4.21	4.25

# Illustrious Alumni

- Some of the most famous names and faces in HIS-tory got their start in HIS with Technicon's amazingly precocious MIS back then:

- Bill Childs

- Recent recipient of CHIME's lifetime award, founded "Computers in Healthcare" the *first* HIS rag in 1980 →



- George Kennedy

- One of the *first* HIS consultants ever, formed The Kennedy Group in '78, sadly departed all too soon →



O. George Kennedy, PhD  
Founder, The Kennedy Group

- Ron Johnson

- HIS maven and author of numerous studies on HIS vendors, Ron also sold for McAuto in its early years →



- Ralph Korpman

- A CMIO before there was such a term, Dr. Korpman went on to create UltiCare at Health Data Sciences

# Bigger & Better

- TDS added apps & modules to its product line over the years, and played the “name game” too, tagging MIS as TDS 4000.
- As this add shows, they even had ERP modules back then, something few large HIS vendors today bother with.
- The next acquisition of TDS needs its own episode, as it is an amazingly complex story of acquisitions and personalities that tie together many past episodes. See you next week!

## Introducing the New TDS HealthCare 4000 System.



**The TDS HealthCare 4000 System**  
The solution for your total hospital information needs.

For years, TDS\* has set the standard for proven, cost effective, and richly functional patient care systems. In fact, we invented the idea of the electronic medical record.

More recently, TDS introduced a very advanced, paperless, on-line patient accounting application. And, our exclusive arrangement with MSA\*\* provides powerful general accounting capabilities, as well as superb cost accounting and case mix applications.

Now, TDS puts it all together with a single integrated solution—the HealthCare 4000 System. Under the common umbrella of Information Expert\*, a powerful and proven fourth-generation technology, data are easily accessible to the end user as well as the data processing professional. Whatever your needs for data—from patient care to cost control to market share—the HealthCare 4000 System gives you the answers you need, quickly and easily, all from a single source. To learn more about the world's best and most comprehensive IBM®-based solution for a total information system, please call or write TDS Marketing Department:

\*TDS Healthcare Systems Corporation, formerly Technicon Data Systems Corp.

\*\*Management Science America, Inc. Information Expert is a registered trademark of Management Science America, Inc.

IBM is a registered trademark of International Business Machines Corporation

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**TDS Healthcare Systems Corporation**

5887 Glenridge Drive  
Atlanta, GA 30328  
(800) 241 6055  
(404) 847 5000 in Georgia



# H.I.S.-tory

by Vince Ciotti

Episode #92:

Allscripts

Part 2

## If You Don't Believe Us, Ask Our Customers.

We don't expect you to take **our** word for it. With all of the baseless claims and "vaporware" demonstrations made by numerous information systems vendors, you shouldn't.

What we **do** ask is this:

If the idea of achieving real cost savings and quality enhancements appeals to you...

...and if you agree that direct physician use of an information system (and that's **order entry** as well as **results retrieval**) is becoming a strategic imperative in the managed-care environment...

...then let us put you in touch with some of our customers to find out why thousands of physicians routinely use our systems every day. Take **their** word for it.

And then let's talk in earnest about an information system for your enterprise.

Together, we can get to the point of healthcare information systems. We can ease the pressure to reduce healthcare costs - while providing superior patient care.

*"We've seen direct physician use of the TDS system improve care, and that's really the fundamental thing many clinicians have told us about the system's impact - we are constantly improving care as we implement the system."*

*-Loring Flint, Jr., MD, MBA  
Senior Vice President  
Baystate Medical Center  
Springfield, MA*

*"We can quickly make decisions based on reliable data as we're ordering a particular test or therapeutic option. It educates us. We learn from it. We save the patient money. We save the institution money. And we obviously save healthcare money. I think everybody wins in that scenario."*

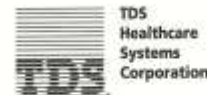
*-Edward M. Racht, MD  
Virginia Commonwealth University's  
Medical College of Virginia  
Richmond, VA*

*"We have had the TDS system for nearly 12 years and have had 100% physician utilization since we first activated. During that time we have trained more than 10,000 clinicians in it and have yet to find a physician or nurse who couldn't use it."*

*-Patsy B. Marc, RN, MSN  
Director, Hospital Information Sys  
New York University Medical Center  
New York, NY*

*"As institutions increasingly have to manage care, they'll discover the strategic importance of information systems. The TDS system is literally a survival tool."*

*-G. Aubrey Serfling, MPH, MBA  
President and  
Chief Executive Officer  
California Pacific Medical Center  
San Francisco, CA*



200 Ashford Center North  
Atlanta, GA 30338  
(404) 867-5000

Get To The Point Of Information Systems. Get TDS.

An **ALLTEL** Company. Affiliated with Systematics Healthcare Services, Inc.

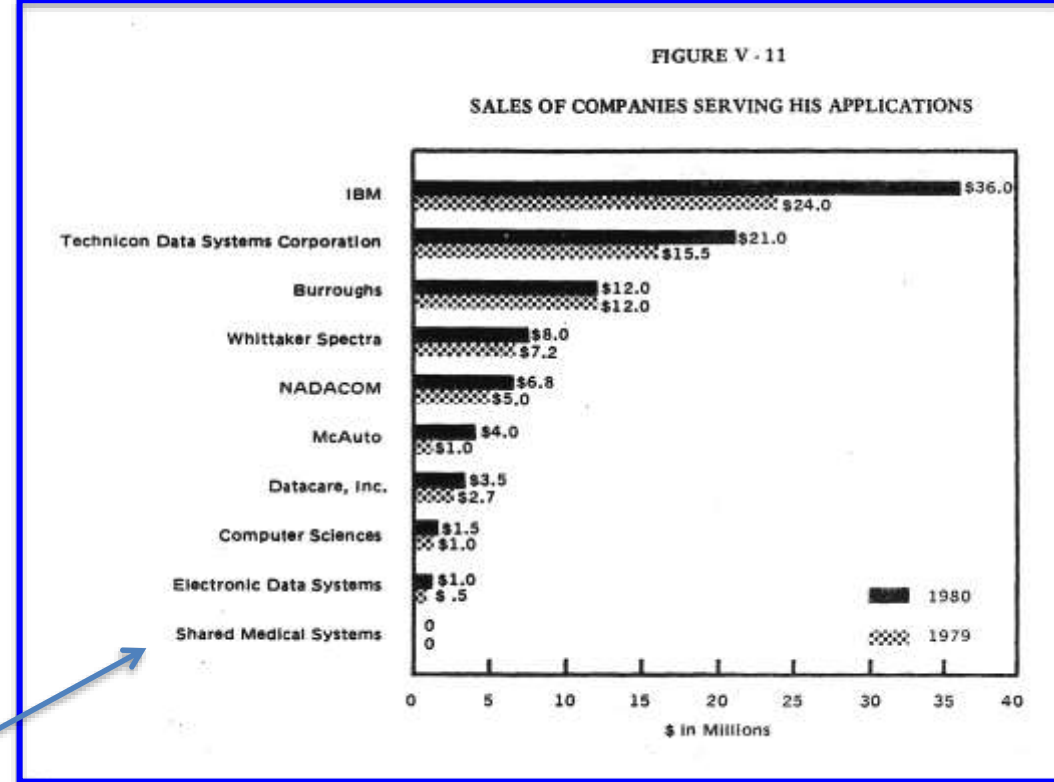
TDS, the TDS logo and TDS 1000 Series are registered trademarks of TDS Healthcare Systems Corporation.

# A Systematic Tell-All...

- In case you couldn't read the fine print at the bottom of the ad on the previous page from 1994, you'd notice that TDS was now *"An Alltel Company, affiliated with Systematics Healthcare Services."*
- And just who's Alltel/Systematics when they're home? Alltel was one of the largest telecommunications companies in the US, that decided to buy their way into the IT biz by acquiring Systematics.
- Today they're part of Verizon's mega-corporation, but back then, their acquisition of TDS was an earth-shaker, exchanging 2 million of ALLTEL common shares for all the outstanding shares of TDS.
- Besides TDS, they also acquired John Depierro's **Medical Data Technology** (MDT), that had rights to run TDS on a *remote-hosted* basis throughout the greater Delaware Valley (NY, NJ, PA...).
- Within 3 months, Alltel/Systematics also announced its first *outsourcing* agreement, with St. Joseph's Hospital in Parkersburg, W.Va., showing it was going to be a force to be reckoned with...

# Next Part of the “Script”

- As this classic table from Shelly Dorenfest’s early Guide documents so well, **Technicon** had sold more “HIS” (EMR) systems than any other vendor but IBM.
- Each of these other vendors could be a HIS-tory episode in their own right, but *not a single one survived* until today except the very last one, **SMS**, that acquired rights to HBO’s MedPro for “ACTIon,” which they augmented with their own self-developed DEC version.
- Curiously, **SMS** was co-founded by the same individual who would also found the successor firm of Alltel/Systematics: Harvey Wilson, *da man!* No other HIS-tory hero can brag of having formed **two** of today’s leading HIS vendors, and here’s the *human* side of the story



# A Tale of Two Hot Rods

- I first met Harvey at SMS when I joined in 1969 and drove my 1966 'vette up to King of Prussia, with its 427 monster V-8: (that's me on the left & my brother Dave)
- In SMS' cafeteria one day, some tall guy asked "Who's got the 'vette?" and I suddenly found myself talking with the Senior VP of Sales & Marketing: Harvey!



- A few months later, I was working in NJ at SMS' Woodbridge office on my first install as an ID, when up pulled this monster V-12 Jaguar fastback coupe into the parking lot – it was Harvey with his stunning new machine that blew mine away! It was this *competitive* urge that drove his amazing career from SMS to...



# A Second Passion

- Harvey led SMS' sales & marketing efforts superbly, even serving as CEO for a while when Jim Macaleer was Chairman. He retired in the late 80s to pursue his 2<sup>nd</sup> passion: boating, acquiring a yacht company in FL.



- He couldn't get HIS out of his head however, and in 1995, attended a client gala our FL partner, Karl Sydor, hosted on this elegant yacht above. On the left, Harvey intrigued the CEOs & CFOs in attendance with ideas about starting another IT firm. (sorry the picture's so poor - it was taken on Apple's 1<sup>st</sup> e-camera: a **QuickTake**, big deal in those days!)





# NewCo & Company

- “NewCo” is the nom de plume for a biz start-up while legally searching for a new name. Harvey’s venture started at a client of ours Karl Sydor had in sunny West Palm Beach: Good Samaritan Medical Center.



- Karl & I worked in NJ at SMS, and he was a co-founder of HIS Pros. He asked me to help assess Good Sam’s DP department, and our report was critical of their inhouse mainframe data center – just not being run well by our old SMS/KOP standards.
- Karl asked Harvey for ideas about how to fix things, and Harvey called his former Operations Manager at SMS, who’s a HIS-tory hero in his own right (check out previous episode #41 at [hispros.com](http://hispros.com)):

## **H.I.S. PROFESSIONALS**

*“Partner of the Month”*

**Karl Sydor**

Over 30 years of HIS experience, including :



- 5 years, Hospital MIS dept. management.
- 15 years, Regional Support Manager for leading HIS vendor.
- 10 years, HIS consulting.

PO Box 1190  
Deerfield Beach, FL 33443  
(305) 360-7031




# NewCo's SMS Alumni



- Jim Carter had been SMS' *superb* VP of Operations, pictured on the right at our 2009 reunion. Also retired from SMS, he answered Harvey's call and they sold an "FM" deal to run Good Sam's data center.
- Harvey started exploring & selling other deals and built NewCo up by recruiting a slew of former SMS "King of Prussians," including:
  - Karl Sydor – who sadly left our firm to be Harvey's 2<sup>nd</sup> employee
  - Fred Abel – an old buddy of Harvey's from his Naval Air days
  - Terry Macaleer – "Big Jim's" little brother, and another ex-ID
  - John Patton – a superb guy who I originally hired at SMS ≈1975
  - John Schofield – another ex-ID Manger from SMS' NJ office
  - Jim Hall – an SMS veteran who had even been SMS' CEO once
  - Jerry Vogt – a brilliant engineer who built SMS' telecom dept.
  - Randy Sprau – one of the best & brightest in programming...

# Eclipse of Alltel

- At first, NewCo was known as “**Integrated Healthcare Solutions**,” but soon their marketing mavens came up with a name that eclipsed their competitors and left them:
- As did **Eclipsys**’ acquisition of Alltel for \$200M in ‘97, giving them a client base of ≈250 of the largest & most prestigious HIS clients to sell on their growing array of products.
- **Eclipsys** next embarked on an acquisition binge that included some the leaders in many niches.
- Time & ppt space will permit us to cover only a few of the largest:



## Spinning?

Is trying to keep up with the challenges of providing high-quality, cost-effective care throwing your operations off balance and sending you spinning? It isn't made any easier by the increasing public scrutiny on the need to reduce avoidable medical errors, and new HIPAA regulations for data security and access. Implementing change in a complex environment is always hard.

**...It's all a matter of BALANCE.**


WEB: [WWW.ECLIPSYS.COM](http://WWW.ECLIPSYS.COM)  
EMAIL: [INFO@ECLIPSYS.COM](mailto:INFO@ECLIPSYS.COM)

### Eclipsys can help.

Simply put, our mission is "better healthcare through information." We know the power of information to improve processes. As "The Outcomes Company<sup>SM</sup>", Eclipsys is committed to providing new solutions to today's and tomorrow's challenges... solutions that help you balance and improve the interrelated elements of cost, quality and satisfaction throughout your operations and support attainment of your strategic goals as a premier healthcare provider.

From the knowledge-based order-entry and clinical-management capabilities of our leading-edge Sunrise<sup>SM</sup> Clinical Manager to our access, financial, management decision support, chart management, and ERP software...our integration and business process reengineering expertise...our wireless and network solutions...or our ASP information-management services, we have proven solutions that physicians, clinicians and virtually every other member of the healthcare team use every day to make a difference.

Let us help you make a difference as well.

 **ECLIPSYS**  
THE OUTCOMES COMPANY

A proud member of the Microsoft .NET Early-Adopter Program  
InfoLink No. 2

# Eclipsys' Buying Binge



- **Eclipsys acquires patient flow software firm**
  - December 31, 2008 – Eclipsys acquired patient flow software firm Premise of Farmington, CT, for \$38.5 million cash.
- **Eclipsys completes \$45M acquisition of MediNotes** in 2008
  - a provider of physician practice information solutions
- **Eclipsys Acquires Enterprise Performance Systems, Inc.,**
  - (EPSI) business performance-improvement solutions.
- **Eclipsys Acquires Sysware** – well-regarded LIS vendor
  - Including 130 software development personnel in India.
- **Eclipsys Acquires Radiology Division from eLynx**
  - Montreal, November 2004—eLynx Medical Systems
- **Eclipsys Acquires Transition Systems, Inc. ("TSI")**, for DSS/EIS
- **Eclipsys Corporation acquires SDK Medical Computer Services Corporation**, provider of patient accounting systems



# But Wait, There's More!

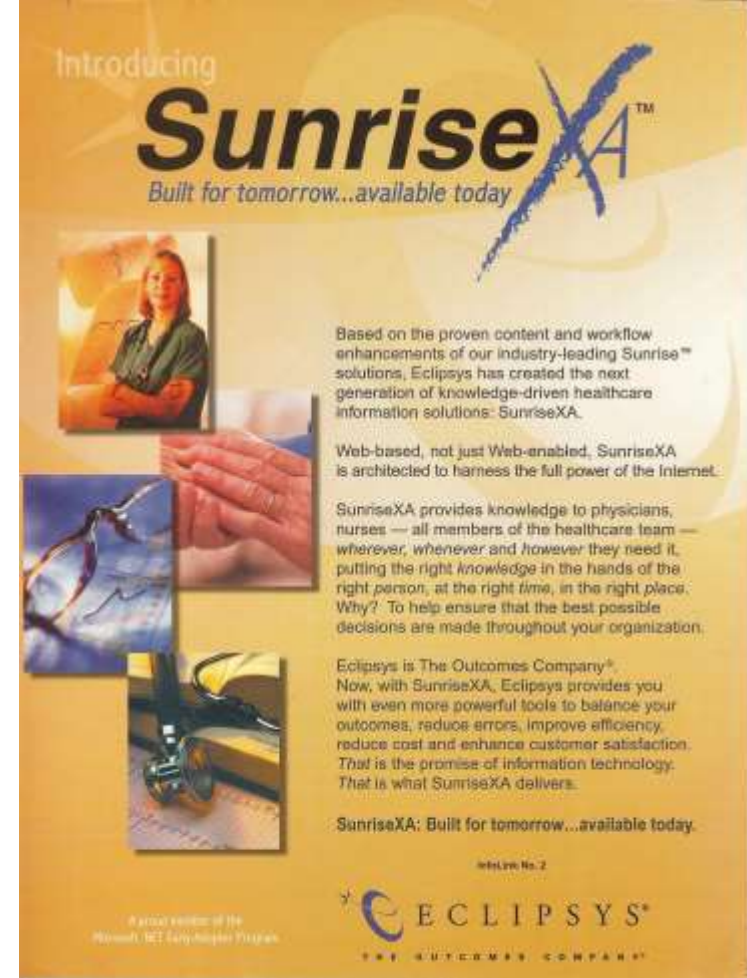


- **1996: Eclipsys** entered into a license with Partners Health Care System for the BICS clinical information systems software developed at the Brigham and Women's Hospital, in Mass.
- **1998: Eclipsys** Corporation acquires Emtek Healthcare Systems, a division of Motorola, Inc., for critical care sys.
- **1998:** Eclipsys Corporation acquires HealthVISION, Inc. (acquired by Transition)
- **1999: Eclipsys** Corporation acquires PowerCenter Systems, Inc.
- **1999: Eclipsys** Corporation acquires Intelus Corporation and MedData Systems, Inc., subsidiaries of SunGard Data.
- **1999: Eclipsys** Corporation acquires MSI Solutions, Inc. and MSI Integrated Services, Inc. (collectively, "MSI")

All told, Eclipsys spent over \$500 Million on these acquisitions - no wonder they dropped the name ***Integrated*** Healthcare Solutions!

# MS “Integration”

- Actually, right after Y2K, Eclipsys jumped on Bill Gate’s .Net bandwagon with their “XA” version of Sunrise to try to bring all these disparate data bases, OS-es and programming languages together.
- By Y2K, Eclipsys boasted over 1,500 FTEs & about a *thousand* clients, thanks to the menagerie of systems they had acquired:
  - 250 from TDS, 75 SDK, 300 TSI, etc.Becoming a prime target themselves...
- So, there you have the first two convoluted parts of the story:
  - “**Lockheed-MIS-Technicon-TDS-Revlon-Alltel-Systematics**,” and
  - “**NewCo-IntegratedHealthcareSystems-Eclipsys**” and acquisitions
- Next week, **ALL** things simplify as we reach the end of the **SCRIPT**.



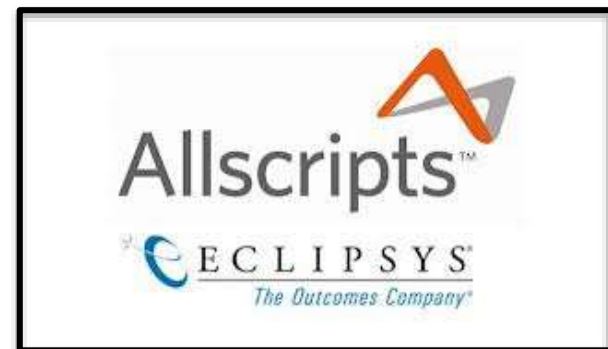




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# H.I.S.-tory

by Vince Ciotti

Episode #93: **Allscripts**  
**Part 3**

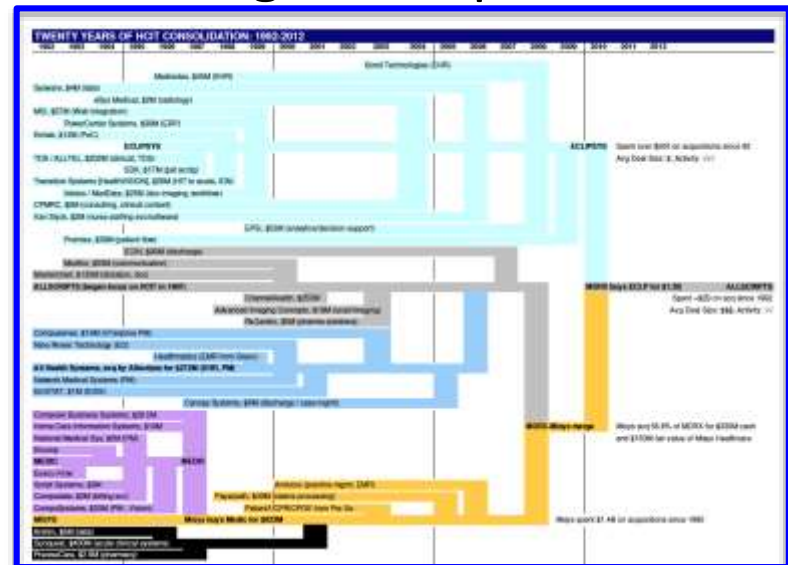
# It's *All* in the *Script*!

- We left off last week with Eclipsys gobbling up half the firms in the industry, so it's only fair what happened to them in 2010:



“**Allscripts** announced this morning that it will acquire **Eclipsys** for \$1.3 billion in an all-stock transaction. **Misys** PLC, the 55% owner of **Allscripts**, also announced that it will sell most of its interest in the company... reducing its holdings to less than 10% of the merged companies.”

- So what is the HIS-tory of **Allscripts** and their partner **Misys/Medic**? Hold on to your mouse, as these firms themselves were formed by a bewildering maze of mergers and acquisitions that stretch ppt limits:



# Way back in 1986...

- Allscripts originally got its start in 1986 by selling prepackaged meds for physicians to dispense right in their practices.



- The idea caught on very well, and the company later unveiled its first software product, an e-prescribing system, in 1998, beating one of today's MU requirements by over a decade!

- However, neither the meds nor the e-prescribing would have ever earned them enough dough to acquire Eclipsys for over \$1B. That capital was earned by another complex name in HIS-tory: **MISYS**.
- **Misys** was a UK-based firm that was originally dominant in banking & manufacturing in Europe and bought its way into the US healthcare market, much like **Ferranti** (episode #64 at hispros.com).



# Medic Computer Systems



- **Misys** set its US sights on **Medic**, itself a conglomerate that was originally founded in 1982, offering practice management (PM) systems first to *small* physician practices (avoiding IDX' dominance of *large* practices). At its peak, **Medic** Computer Systems claimed installations across the country serving 70,000 physicians in more than 12,000 locations. In addition to its “Vision” system, which ran on **IBM** RS/6000 “RISC” minis, **Medic** also offered practice management solutions via MEDIC “Tiger,” MEDIC “PM,” as well as clinical solutions with AutoChart. These systems were developed or came from a number of vendor acquisitions including:
  - Home Care Information Systems (HCIS), from NJ, one of the first laptop PC-based Home Health Care systems.
  - Elcomp Systems in 1994, from Pittsburgh, PA, for ≈\$5 million.
  - Script Systems in 1995 from Princeton, NJ , for ≈\$3 million.
- Plus Elco, National Medical, Compuata, CompuSystems, etc.

# MISYS Mega-Merger



- So it was pretty big news when early in “**1997 Misys and Medic Computer \$922.8 Million Merger**” was announced:
  - “**Misys** P.L.C., a large British software company, said yesterday that it had agreed to acquire **Medic Computer Systems Inc.**, a leading maker of software for automating physicians' billing and patient records, for \$922.8 million in cash, or \$35 a share.
  - **Medic** has flourished by concentrating on systems used in managing physician group practices. These systems, though typically smaller than hospital installations, are considered an easier sell because many of the doctors groups have not previously invested in big computers and proprietary software.
  - Based in Raleigh, N.C., **Medic** has more than 1,400 employees. In the quarter ended June 30, the company earned \$6.2 million, or 24 cents a share, on revenue of \$60.3 million.”

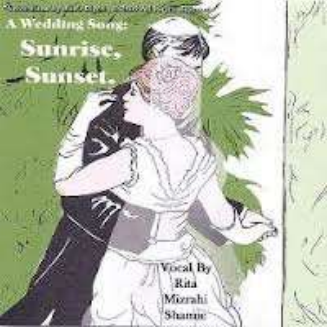


# But Wait, There's More!

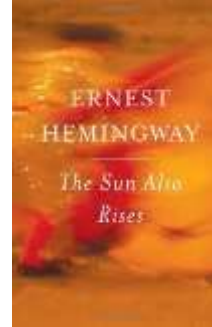


- If you're getting confused, don't blame me, I'm just the messenger. The combined firm was known as **Misys Healthcare** in the US, and needless to say, they acquired many firms, including **A4** in 2006:
  - Remember Skip Shippee's "MSA" (Management *Systems* of America, not Management *Sciences* of America – the ERP giant)
  - They built one of the first mini-based HIS systems on Microdata boxes, another UK firm that McAuto eventually got the rights to to make their Mini-based Hospital System (MHS) around 1980.
  - MHS didn't sell too well, and MSA got the rights to their system back, eventually selling out to the employees in as "ESOP" with the creative name of **A4** (All the *systems*, all the *time*, etc.).
  - **A4** acquired its "Healthmatics" EMR from pharma giant Glaxo, as well as its practice management system for small to medium-sized practices. It also bought a leader in a red-hot niche today:
    - EmSTAT's emergency dept. information systems (EDIS).





# The sun sets, and rises...



- Now this pun should knock you out: in 2001, **Misys** bought LIS giant **Sunquest**, who along

with SCC Soft ruled that niche after Cerner moved into HIS/EMRs. In 2007, **Misys** sold **Sunquest** back, followed by its huge 2008 deal:

## “Allscripts & Misys Announce Merger -

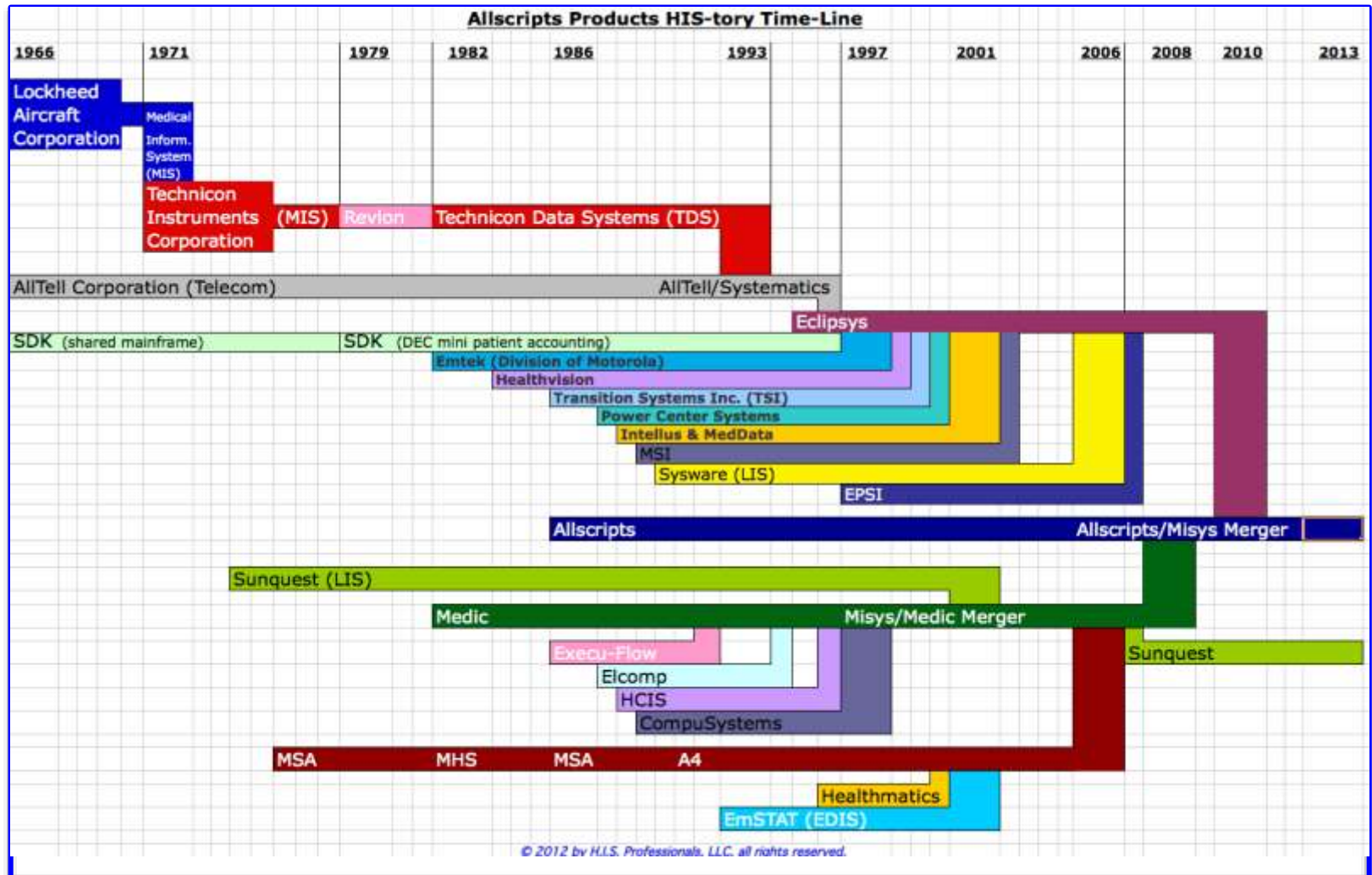
In a deal estimated to affect more than 150,000 U.S. physicians and 700 hospitals, Allscripts and Misys Healthcare have announced a merger, giving British-based Misys Plc a 54.5 percent stake in the combined company, in which Raleigh, NC-based Misys Healthcare will be folded into a wholly owned subsidiary of Allscripts.”

- So what’s so punny about Misys buying & selling Sunquest just before the merger? Just think of the name of Eclipsys’ EMR...

(after these convoluted buys & sells, it will be a pleasure next week to start on a vendor with a *single* product, *never* bought or sold!)

# Picture's Worth a Thousand Words?

- Not sure just how many words were in the last 3 weeks episodes on Allscripts (*too many?*), but here's the origin of their products:



Sheet 822

- Took you 2 minutes (seconds?) to read it, took me 2 *hours* to build it!

# Today's Leading HIS Vendors

- Here's the complete list of today's leading HIS vendors, listed in order of their annual revenue, along with their founders' names:
1. \$3.2B = [McKesson](#), née HBO(C) = Walt Huff, Bruce Barrington, & Rich Owens
  2. \$2.6B = [Cerner](#), *still* run by Neal Patterson, co-founded by Cliff Illig & Paul Gorup
  3. \$1.8B (est) = [Siemens](#), née SMS: Jim Macaleer, Harvey Wilson & Clyde Hyde
  4. \$1.5B = [Epic](#). Gee, I have to wonder, just **who** was it who founded them?
  5. \$1.4B = [Allscripts](#), née Eclipsys, also founded by Harvey Wilson of SMS fame
  6. \$850M (est) - [GE Healthcare](#), née IDX/PHAMIS: created by Malcolm Gleser
  7. \$597M = [Meditect](#), *still* run after all these years by Antonino Papallardo
  8. \$375M = [NextGen](#): née Quality Systems Inc. founded by Sheldon Razin
  9. \$183M = [CPSI](#), founded by M. Kenny Muscat & Denny P. Wilkins
  10. \$156M = [HMS](#) (Healthcare Management Systems), Tom Givens & John Doss
  11. \$150M = [Keane](#), parent giant by John Keane, and HIS division by Ray Paris
  12. \$106M = [QuadraMed](#), née Compucare, founded by Sheldon Dorenfest
  13. \$75M (est) = [Healthland](#), formerly Dairyland, founded by Steve Klick

# Ta-Da!

- And here it is, the best we can come up with so far  
– please email me with any additions/corrections  
and I'll send you the Excel file: [vcioti@hispros.com](mailto:vcioti@hispros.com)

## Leading HIS Vendors' C-Suite Time-Line

	1969	1976	1980	1985	1990	1995	2000	2010	2013
Chairman: President:	<b>HBO</b> Walter Huff				<b>HBOC</b> Holcomb Green Walter Huff		<b>McKesson</b> John Hamergren Graham King	Pam Pure	Patrick Blake
		John Lawless		Larry Gerdes	Darrell Young	Charlie McCall			
Chairman/CEO: President:			<b>PGI</b> Neal Patterson	<b>Cerner</b>			Trace Devanney		Zane Burke
Chairman: Pres./EVP:	<b>SMS</b> Jim Macaleer		Harvey Wilson	Mark Levitan	Graham King	Marv Cadwell	<b>Siemens</b> n/a Frank Lavelle	Janet Dilione	John Glaser
Chairperson: EVP/President:			<b>HSC</b> Judy Faulkner	<b>Epic</b>			Karl Dvorak		
President:	<b>Lockheed MIS</b> ???	<b>Technicon MIS</b> Mel Hodges, Ian Hicks, John Whitehead	<b>Revlon</b>	<b>TDS</b>		<b>AllTell</b>	<b>Eclipsys</b> Harvey Wilson	Paul Ruffin Phil Pead	<b>Allscripts</b> Glan Tullman Paul Black
President:	<b>BDP</b> Hoel & Tarrant	<b>IDS</b> Richard Tarrant		<b>IDX</b>		Jim Crook		<b>GE</b> Vischal Wanchoo, Jan DeWitt	
Chairman: CEO/Pres:	<b>Meditech</b> Neal Pappalardo		Larry Palomino				Howard Messing		
President:		<b>Quality Systems Inc</b> Sheldon Razin					<b>NextGen</b>		Steve Plochocki
Founders/President:			<b>CPSI</b> Kenny Muscat & Denny Wilkins			David Dye	Boyd Douglas		
Founders/President:			<b>HMS</b> John Doss & Tom Givens					Tom Stevenson	
President:	<b>KeaMed</b> Ray Paris			<b>Keane HSD</b>			Walt Kaczor	<b>Caritor</b>	<b>NTT</b>
President:	<b>Compuware</b> Shedlon Dorenfest	Ron Apprahmanian		<b>IBAX</b> Frank Russo	<b>Compuware</b> Ron Apprahmanian		<b>QuadraMed</b> Larry English Keith Hagan Jim Duncan		<b>Harris</b>
President:			<b>Dairyland</b> Steve Klick				<b>Healthland</b> Jim Burgess		Angie Franks

# From The Source...

- Bill was especially helpful with ID-ing the early executives over Lockheed's pioneering Medical Information System (MIS) project:
  - *“What was known as Technicon or the TDS system was conceived in 1967 and started in 1968 at Lockheed Missiles and Space Company in Sunnyvale, CA. Lockheed received a “Matching Grant” from the U.S. Government to develop systems in order to track and report on the new Medicare / Medicaid System which went into effect in 1968 at a cost of \$3.2 Billion for the first year... The first CEO of the project was Kenneth Larkin, who was a Lockheed Vice President and his COO was Mel Hodge, who was Lockheed's youngest VP and a Fulbright Scholar at Northwestern University. He was truly a visionary and first proposed a Medical Information System that physicians would use in 1967. Leaders of the development were Paul Williams for applications, Chuck Tapella, for online-real-time systems and Bill Childs for Financial Information Systems.*
  - *Note: parts of the Medical and Financial Systems are still alive in several hospitals some 45 years after their first “Go Live” (Financials in 1969 and Medical in 1971) at El Camino Hospital in Mountain View, CA.”*