Staying FOCUSED
In a MAD, MAD, MAD, MAD World!!

MUSE Webcast
Speaker Info:

Frank Fortner  
Senior Vice President  
Application Software Division
Objectives

• **Acquire** a basic understanding of MEDITECH’s newest generation of HIS software, 6.x, built on a proprietary MEDITECH Advanced Technology platform once referred to as FOCUS.

• **Become empowered** with the knowledge necessary to make wise and well-informed decisions about your own possible migration to a 6.x version, which introduces the MEDITECH Advanced Technology platform.
• MIIS
• $T MAGIC
• NPR (MAGIC)

• Client/Server NPR (VMAGIC)
• Client/Server FS
• Client/Server Advanced Technology (once called FOCUS)
Two Sides to C/S 6.x

MEDITECH C/S 6.x

C/S NPR

Connections

MEDITECH Advanced Technology

Nearly Identical UI

Separate Report Writers & DR Databases
6.0 Platform Breakdown

MEDITECH C/S 6.0

C/S NPR
- Financial Applications
- Ancillary Applications

MEDITECH Adv. Technology
- Advanced Clinical Apps
- HIM (A.K.A. “MRI”)
• Current 5.x C/S customers migrating to 6.0 or 6.1 are migrating some applications to a very different C/S platform

• Current MAGIC customers migrating to 6.0 or 6.1 are technically migrating to TWO very different C/S platforms. Some applications to one platform and some to the other.
C/S 6.x
A Tale of TWO Platforms
(NPR and M-AT)
Defining C/S NPR

• Primary MAGIC-like technology in 5.x (called VMAGIC)

• Similar database and programming language to MAGIC

• Most applications in C/S 5.x “ported over” from MAGIC

• Ironically Stands for “Non-Procedural Representation”

• Not a report writer and yes, “Programming is Required”
Defining C/S NPR

- Similar Report Writer to the NPR RW found in MAGIC
- Included a few pure “FS” applications (e.g. EMR, PCS)
- Most 6.0 applications are still on the NPR platform
- Limited lifespan in 6.x as more apps port to M-AT
• New development environment built around FS language

• M-AT is to FS what NPR MAGIC was to $T MAGIC

• New “Chronological” Database Technology (MAD)

• Optimized Network Management

• New User Interface Tools for Screens / Reports
Components of M-AT

MEDITECH Advanced Technology:

- Advanced Programming Language (APL)
- Advanced Network Protocol (ANP)
- Advanced Database (MAD)
APL
(MEDITECH Advanced Programming Language)
What Is APL?

- Until recently, APL was being called FOCUS code
- High level source language; produces FS object code
- Similar to how NPR produces Magic object code
- No built-in editor; APL developers mostly use TextPad
- No access to write APL or FS code anywhere in M-AT
• There is NO end-USER access to write APL or FS code anywhere in M-AT

• The NPR side of 6.x will still allow inserting NPR & MAGIC code in fragments, macros, computed fields and screen attributes but there is NOTHING even comparable in M-AT.

• MEDITECH’s position is that writing code is not necessary if you use the rules editor M-AT provides.
What Is FS?

- FS = new(er) object code language introduced in 90’s
- Stands for “Functional System”
- Interpreted language with lots of function calls
- Emphasis on client-side processing
- Very little support of Data Defs & Variables
- In 5.6, was purely object code; Now APL produces FS
CODE COMPARISON
‘Hello World’ in MAGIC

Clear the screen & position at top

T(“”)^#,
N(“Hello World!”)^#;

Write Hello World to the screen
:Code Main
`200,300'@lw@OW,
"My First App"@Ih
"Hello World!!"@Wb,
DO{@RK~=27}@CW;

Name of Function
Create a window
Add a title to the window
Output string in the foreground
Exit when user presses ‘ESC’
Close the window
Hello World in APL

#Translation
:Options
Result: MSFile
:Product
Type: Unstructured

#Preamble
:Options
Type: Process

#Magic
:Code Main
`200,300'@lw@OW,
"My First App"@lh
"Hello World!!"@Wb,
DO{ARK~=-27}@CW;

Same as FS code in the Main body
Hello World in APL

#Translation

:Options
Result: MSFile
:Product
Type: Unstructured

#Preamble

:Options
Type: Process

#Magic

:Code Main
`200,300'@lw@OW,
"My First App"@Ih
"Hello World!!"@Wb,
DO{@RK~=-27}@CW;

Used to determine “run-time” behavior
Hello World in APL

#Translation
:Options
Result MSFile
:Product
Type Unstructured

#Preamble
:Options
Type Process

Defines the Object type
i.e. how this object will be “called”

#Magic
:Code Main
`200,300’@lw@OW,
"My First App"@lh
"Hello World!!"@Wb,
DO{@RK~27}@CW;
ANP
(MEDITECH Advanced Networking Protocol)
What Is ANP?

• Data storage & retrieval service

• Handles all transactions between server & clients

• ONLY way to store / retrieve data to / from the MAD

• Appends records, maintains & searches indexes

• Sets and releases locks called “Mutexes”
What Is ANP?

- Can handle multiple discrete requests in one network txn
  - This helps with network latency
  - Limits requests to no more than 1000
  - Also manages files and folders (create, delete, etc.)
  - Coincidentally, the same initials as A. Neil Pappalardo
MAD
(MEDITECH Advanced Database)
Defining the MAD

- Chronological; Append-Only; nothing is ever deleted
- Naturally keeps audit trails of all entries and edits
- Data are stored in multiple files
- Much more normalized; Reg.Acct only stores pointers
- Very fast at filing data; not so much when retrieving
- Increased reliability; never an invalid state during a write
Defining the MAD

- Increases performance by employing “coalescence”
  - Coalescence combines record requests to ANP
  - The trick is knowing how many objects to request
  - Certain data dependencies force multiple ANP requests
### Sample Report

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>Acct#</th>
<th>Unit#</th>
<th>Category</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order#</td>
<td></td>
<td></td>
<td>Service Date</td>
<td>Category</td>
</tr>
<tr>
<td>#1</td>
<td>02/10/2010</td>
<td>Laboratory</td>
<td>Glucose</td>
<td></td>
</tr>
<tr>
<td>#2</td>
<td>02/11/2010</td>
<td>Nursing</td>
<td>Vital Signs</td>
<td></td>
</tr>
<tr>
<td>#3</td>
<td>02/12/2010</td>
<td>Radiology</td>
<td>Chest X-Ray</td>
<td></td>
</tr>
<tr>
<td>#4</td>
<td>02/13/2010</td>
<td>Dietary</td>
<td>Regular</td>
<td></td>
</tr>
</tbody>
</table>

How many ANP requests (imported objects) are necessary for this amount of data?
### Defining the MAD

**ANSWER = 14**

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>Acct#</th>
<th>Unit#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order#</td>
<td>Service Date</td>
<td>Category</td>
</tr>
<tr>
<td>#</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1</td>
<td>02/10/2010</td>
<td>Laboratory</td>
</tr>
<tr>
<td>#2</td>
<td>02/11/2010</td>
<td>Nursing</td>
</tr>
<tr>
<td>#3</td>
<td>02/12/2010</td>
<td>Radiology</td>
</tr>
<tr>
<td>#4</td>
<td>02/13/2010</td>
<td>Dietary</td>
</tr>
</tbody>
</table>

1 RegAcct (Patient’s account#)
1 HimRec (Patient’s medical record data to pull name and unit#)
4 OmOrd (1 for each order #)
4 OmCategory (1 for each category)
4 OmProcedure (1 for each procedure)
<table>
<thead>
<tr>
<th>Group Name</th>
<th>Entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPIRIN</td>
<td>5/22/07</td>
</tr>
<tr>
<td>COUMADIN</td>
<td></td>
</tr>
<tr>
<td>HEPARIN</td>
<td></td>
</tr>
<tr>
<td>HEAPRIN-BOLUS</td>
<td></td>
</tr>
<tr>
<td>HEAPRIN/COUMADIN</td>
<td></td>
</tr>
<tr>
<td>NONE</td>
<td></td>
</tr>
</tbody>
</table>

Initial Entry: 5/22/07

<table>
<thead>
<tr>
<th>Group Name</th>
<th>Entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPIRIN</td>
<td>7/23/07</td>
</tr>
<tr>
<td>COUMADIN</td>
<td></td>
</tr>
<tr>
<td>HEPARIN</td>
<td></td>
</tr>
<tr>
<td>HEAPRIN-BOLUS</td>
<td></td>
</tr>
<tr>
<td>HEAPRIN/COUMADIN</td>
<td></td>
</tr>
<tr>
<td>NONE</td>
<td></td>
</tr>
</tbody>
</table>

Edit on 7/23/07

<table>
<thead>
<tr>
<th>Group Name</th>
<th>Entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPIRIN</td>
<td>9/13/07</td>
</tr>
<tr>
<td>COUMADIN</td>
<td></td>
</tr>
<tr>
<td>HEPARIN</td>
<td></td>
</tr>
<tr>
<td>HEAPRIN-BOLUS</td>
<td></td>
</tr>
<tr>
<td>HEAPRIN/COUMADIN</td>
<td></td>
</tr>
<tr>
<td>NONE</td>
<td></td>
</tr>
</tbody>
</table>

Edit on 9/13/07
MUTEX
(Mutual Exclusion Locking)
MUTEX Record Locking

- ForUI Mutex
- ForUpdate Mutex
- Protects entire user interface session
- Defined with a time period of ownership
- To other user can gain access to the record
• Defined only when updating record
• Time sensitive to ensure data integrity
• Will not allow older entry to replace newer one
MAT USER INTERFACE
New Screen Technology

- Menu Navigation
- Desktop Screen Regions
- Data Entry Screens
- FOCUS vs. NPR
- Lookups
- History / Audit Trail
Mix of M-AT and NPR Routines

Bolded Selections; Creates “Visual Pathway”
## System Information

- File Servers
- Network
- Background Job Clients
- Print Servers
- Application Servers
- Alert Service
- SAN Backup

## Application Information

<table>
<thead>
<tr>
<th>Accounts Payable</th>
<th>Fixed Assets</th>
<th>Payroll/Personnel System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions Module</td>
<td>General Ledger</td>
<td>Pharmacy Module</td>
</tr>
<tr>
<td>Authorization &amp; Referral Management</td>
<td>Health Information Management</td>
<td>Quality/Risk Management</td>
</tr>
<tr>
<td>Billing/Accounts Receivable</td>
<td>Laboratory Module</td>
<td>Radiology And Departmental Mo</td>
</tr>
<tr>
<td>Case Mix Abstracting Module</td>
<td>MEDITECH Healthcare Information</td>
<td>Registration (Focus)</td>
</tr>
<tr>
<td>Conversion Utilities</td>
<td>Materials Management Module</td>
<td>Scheduling</td>
</tr>
<tr>
<td>Cost Accounting</td>
<td>Medical Records Indexing Module</td>
<td>The HUB</td>
</tr>
<tr>
<td>Data Repository (Focus)</td>
<td>Medical Records Management</td>
<td>UPGrade Tools</td>
</tr>
<tr>
<td>Electronic Medical Record (Focus)</td>
<td>Meditech Healthcare Information</td>
<td>Universe (Focus)</td>
</tr>
<tr>
<td>Emergency Department Management</td>
<td>Order Management (Focus)</td>
<td></td>
</tr>
<tr>
<td>Executive Support System</td>
<td>Patient Care System (Focus)</td>
<td></td>
</tr>
</tbody>
</table>
Data Entry Screens

- Multi-Page Controls
- Navigation (Scroll) Bars
- Chosen Menu Option
- Historical Audit Trail
- New Cancel & Save Buttons
Choose Record (Segment)
Choose Entry
Lists changes over time
Lookups

Type full or partial mnemonic and press <Enter> - Choices populate in window below

Lookup Options
Lookups

Type-ahead Technology

Stylus-Input Keyboard
NPR vs. M-AT Screens
C/S PHA Edit Patient Data

Height
- Feet: 5
- Inches: 8
- Centimeters: 172.72

Weight
- Pounds: 180
- Ounces: 81.647
- Kilograms: 81.64627 kg

Body Surface Area (m2):
- 1.95

Allergy Data

ADR Data

Buttons:
- Cancel
- Save

Menu Options:
- Patient Lists
- Select Patient
- Next Patient
- Patient Profile
- Edit Pt Data
- Patient Audit
- EMR
- Enter Orders
- Stock Orders
- Edit Orders
- Rx Audit
- Interventions
- Progress Notes
- Billing
- Inventory
- Interfaces
- System Mgmt
- Preferences
## M-AT Screen

### Patient Information
- **Name:** TestItric, Vfs
- **DOB:** 03/01/1980
- **Height:** 5 ft 8 in
- **Weight:** 180 lb
- **Admission Date:** 03/01/1980
- **Room:** 3NUR 320-A
- **Admit Type:** Inpatient
- **Allergy/Adverse Reac:** Not Recorded

### Care Item Overview

<table>
<thead>
<tr>
<th>Care Item</th>
<th>Last Done</th>
<th>Status/Due</th>
<th>Today 12h</th>
<th>Today 13h</th>
<th>Today 14h</th>
<th>Today 15h</th>
<th>Today 16h</th>
<th>Today 17h</th>
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</thead>
<tbody>
<tr>
<td>Admission Physical Assessment</td>
<td>X1</td>
<td>-5h</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Admission Questions/PMH</td>
<td>X1</td>
<td>-5h</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Fall Education Video</td>
<td>X1</td>
<td>-5h</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Fall Education Video</td>
<td>X1</td>
<td>-5h</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Height and Weight</td>
<td>X1</td>
<td>-5h</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>IV Flowsheet</td>
<td>Q4</td>
<td>-5h</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Pain Assessment</td>
<td>Q4</td>
<td>-5h</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Patient Visit-Nurse</td>
<td>Q2</td>
<td>-5h</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Vital Signs</td>
<td>Q4</td>
<td>-5h</td>
<td>(</td>
<td>(</td>
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<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Activities of Daily Living-Nurse Aide</td>
<td>TID</td>
<td>-4h</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Patient Visit-Nurse Aide</td>
<td>Q2NA</td>
<td>-4h</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Turn &amp; Position</td>
<td>Q2NA</td>
<td>-4h</td>
<td>(</td>
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<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
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<tr>
<td>Intake and Output</td>
<td>QIDIO</td>
<td>-3h</td>
<td>(</td>
<td>(</td>
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<tr>
<td>PRN Med. Responses Documented</td>
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<td>RN Review of Data</td>
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<tr>
<td>Activities of Daily Living-Nurse Aide</td>
<td>Q8</td>
<td>-68m</td>
<td>(</td>
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<tr>
<td>Daily Shift Assessment</td>
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<tr>
<td>Fall Risk Score</td>
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<tr>
<td>Interdisciplinary Patient Education</td>
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<td>-68m</td>
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<tr>
<td>Monitor/Rhythm Assessment</td>
<td>Q8</td>
<td>-68m</td>
<td>(</td>
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<tr>
<td>Skin Assessment</td>
<td>Q8</td>
<td>-68m</td>
<td>(</td>
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</tr>
<tr>
<td>Telemetry Monitor In Use</td>
<td>DAILY</td>
<td>7h</td>
<td>(</td>
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<tr>
<td>Skin Risk Assessment Scale</td>
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<td>15h</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
</tbody>
</table>

### Additional Features
- **Round, no line:**
- **Square Corners:**
- **Variable size:**
- **Smaller buttons:**

### Buttons
- **Refresh**
- **Change View**
- **Add**
- **Not Done**
- **View/Edit**
- **Document**
5-Minute Break?
HARDWARE
Typical 6.0 Configuration (151 – 300 beds)

- 8 NPR and 3 M-AT File Servers (incl. LIVE & TEST)
- SAN attached storage (1200+ GB addressable) Raid ten
- 2 Transaction Servers
- 16 Background Job Processors (2 TEST / 14 LIVE)
- Background servers running on VMWare
Transaction Server

- Controls all database writes; avoids partial filing
- Protects database from client/user failure
- Backups are transactionally aware across servers
- Roll-forward a database from a prior backup
Conversion Server

- Limits downtime for conversion of data structures
- Allow for database file conversions to be performed offline
- Conversion performed on a backup copy, then updated
- When the two are close enough, “swap & update”
CONNECTIONS
Quick Facts

- “Connection” is synonymous with interface
- MT-2-MT Interfaces have always existed
- The difference here is platform-2-platform
## Connections

From NPR to M-AT

<table>
<thead>
<tr>
<th>Connection</th>
<th>Bkg Job Status</th>
<th>Bkg Job Client</th>
<th>Unprocessed Msgs</th>
<th>Inprocess Msgs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARM Authorizations</td>
<td>ACTIVE</td>
<td>WAM-BG13</td>
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<tr>
<td>Abstract Data</td>
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<td>EMR Dictionaries</td>
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<tr>
<td>EMR ITS Reports</td>
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<tr>
<td>HIM ADT Inbox</td>
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<td>WAM-BG13</td>
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<tr>
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<td>WAM-BG13</td>
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<td>ACTIVE</td>
<td>WAM-BG13</td>
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<td>OM CWS Orders</td>
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<td>WAM-BG13</td>
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<tr>
<td>OM Dictionaries</td>
<td>ACTIVE</td>
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<td>OM ITS Orders</td>
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<td>WAM-BG13</td>
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<tr>
<td>OM LIS Orders</td>
<td>ACTIVE</td>
<td>WAM-BG13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OM PHA Orders</td>
<td>ACTIVE</td>
<td>WAM-BG13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OP Data From NPR</td>
<td>ACTIVE</td>
<td>WAM-BG13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PCS Next Medications</td>
<td>ACTIVE</td>
<td>WAM-BG13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PCS Sch Assessments</td>
<td>ACTIVE</td>
<td>WAM-BG13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SCH Appointments</td>
<td>ACTIVE</td>
<td>WAM-BG13</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note: The table shows the status and counts of various connections from NPR to M-AT.*
Connections

From M-AT to NPR
CDS & ATTRIBUTES
Quick Facts

- Customer-defined screens exist in M-AT
- ONLY VERY BASIC Attributes exist in M-AT
- Rules in M-AT allow for complex logic
• Building custom screens in M-AT means a lot less coding of attributes, fancy tricks, screen pop-ups, etc.

• Complex logic of screenflow are limited by the few available attributes and the rules wizard
CDS & Attributes

Analyst Desktop (NPR)
Alerts
Background Jobs
Connections
Report Queues
Activity Logs
Archived Documents
Reports
Word Processing
**Dictionaries**
My Settings
Emulate Person

MIS Parameters
System Preferences (NPR)
Administrative Dictionaries
Alert Dictionaries
Clinical Dictionaries
Coding Dictionaries
Communications Dictionaries
**Cust-Defined Data Dictionaries**
Document Dictionaries
Financial Dictionaries
General Ledger Dictionaries

**Group Response**
Query
Record (Focus)
Screen (Focus)
Screen (NPR)
### CDS & Attributes

**Screen Dictionary - (TEST 6.0)- AMRIC/SYSTEMS**

**OEADMITMSG - ADT ED Admit Request**

<table>
<thead>
<tr>
<th>Screen</th>
<th>OEDMITMSG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mnemonic</td>
<td>OEDMITMSG</td>
</tr>
<tr>
<td>*Active</td>
<td>Yes</td>
</tr>
<tr>
<td>*Name</td>
<td>ADT ED Admit Request</td>
</tr>
<tr>
<td>Data Record</td>
<td>CM Orders</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Type of Block</th>
<th>New Row</th>
<th>Block Label</th>
<th>Block Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Response Queries</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Text**

<table>
<thead>
<tr>
<th>Query</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEADMACIDNO</td>
<td>Acct. #</td>
</tr>
<tr>
<td>DEADMATOS</td>
<td>Att. Dr.</td>
</tr>
<tr>
<td>DEADMADMDR</td>
<td>Admin Dr.(if diff)</td>
</tr>
<tr>
<td>DEADMPTNAM</td>
<td>Name</td>
</tr>
<tr>
<td>DEADMDX</td>
<td>Diagnosis</td>
</tr>
</tbody>
</table>

**Basic Screen Attributes**

<table>
<thead>
<tr>
<th>Default</th>
<th>String</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default String</td>
<td>String</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Editable</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editable Rule</td>
<td>No</td>
</tr>
<tr>
<td>Required</td>
<td>No</td>
</tr>
<tr>
<td>Required Rule</td>
<td>No</td>
</tr>
<tr>
<td>Suppress</td>
<td>No</td>
</tr>
<tr>
<td>Suppress Rule</td>
<td>No</td>
</tr>
<tr>
<td>Line</td>
<td>Rule English Display</td>
</tr>
<tr>
<td>------</td>
<td>----------------------</td>
</tr>
<tr>
<td>1</td>
<td>From BloodPressure, Find the starting position of &quot;/&quot;; SaveAs V1</td>
</tr>
<tr>
<td>2</td>
<td>Get the length of BloodPressure Save as Length</td>
</tr>
<tr>
<td>3</td>
<td>Length - V1 - 1 Save as V2</td>
</tr>
<tr>
<td>4</td>
<td>BloodPressure, Take the First V1 characters, Save as Systolic</td>
</tr>
<tr>
<td>5</td>
<td>BloodPressure, Take the Last V2 characters, Save as Diastolic</td>
</tr>
<tr>
<td>6</td>
<td>(Systolic - Diastolic) / 3 + Diastolic Save as V3</td>
</tr>
<tr>
<td></td>
<td>If V3 Is equal to 0 Then</td>
</tr>
<tr>
<td>7</td>
<td>Compute NULL Save as V3</td>
</tr>
<tr>
<td>8</td>
<td>Set program result to: V3</td>
</tr>
</tbody>
</table>
3rd Party Integration?
The Myths

- Rumors say no 3rd party applications in 6.x
- No 3rd party company can access M-AT data
- 3rd party vendors are completely locked out
How do other vendor products integrate with MEDITECH?

- Extract data via data drivers or native code
- Receive data via interfaces & virtual printers
- Screen Scrape – reading data from screens
- Send data to MEDITECH via standard interfaces
- Scripting – sending “ghosted” keystrokes to screens
- Link to / launch various routines from MEDITECH
The Truth about What Is Possible:

• Data can be extracted from M-AT. Drivers already exist!

• Interfaces already exist that fetch data from M-AT

• Scripting and Screen Scraping works – actually better!!

• It is possible to link/launch from M-AT screens
DATA EXTRACTION
FOCUS to NPR

M-AT “List” Structure

NPR Structure
<table>
<thead>
<tr>
<th>Mnemonic</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>0500000</td>
<td>Vital Signs</td>
</tr>
<tr>
<td>0500030</td>
<td>Intake and Output</td>
</tr>
<tr>
<td>0500100</td>
<td>Hemodynamic Monitoring</td>
</tr>
<tr>
<td>0909090</td>
<td>Collect Specimen</td>
</tr>
<tr>
<td>1000060</td>
<td>Alarms on at all times</td>
</tr>
<tr>
<td>1250032</td>
<td>Urine Dipstick</td>
</tr>
<tr>
<td>2000005</td>
<td>Assess Hydration Status</td>
</tr>
<tr>
<td>2250001</td>
<td>Cardiac Assessment</td>
</tr>
<tr>
<td>2250002</td>
<td>Monitor/Rhythm Assessment</td>
</tr>
<tr>
<td>2250003</td>
<td>Edema Assessment</td>
</tr>
<tr>
<td>2250004</td>
<td>Neurovascular/Sensory/Motor Assessment</td>
</tr>
<tr>
<td>2300000</td>
<td>Head, Neck, Ears, Eyes &amp; Throat Assessment</td>
</tr>
<tr>
<td>2500000</td>
<td>Assess Level of Consciousness</td>
</tr>
<tr>
<td>2500001</td>
<td>Neurological Assessment</td>
</tr>
<tr>
<td>2500004</td>
<td>Dysreflexia Assessment</td>
</tr>
<tr>
<td>2500007</td>
<td>Assess Deep Tendon Reflexes</td>
</tr>
<tr>
<td>2500090</td>
<td>Seizure Assessment/Precautions</td>
</tr>
<tr>
<td>2750001</td>
<td>Pain Assessment</td>
</tr>
<tr>
<td>2750002</td>
<td>Chest Pain Assessment</td>
</tr>
<tr>
<td>2750003</td>
<td>Epidural Assessment</td>
</tr>
<tr>
<td>Mnemonic</td>
<td>Active</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>0500000</td>
<td>Y</td>
</tr>
<tr>
<td>0500010</td>
<td>N</td>
</tr>
<tr>
<td>0500030</td>
<td>Y</td>
</tr>
</tbody>
</table>
Diet Name & Count were "scraped" off the screen
3rd party software is available to interface and directly integrate with M-AT applications!!
REPORT WRITING
• There are two report writers (NPR RW & Report Designer)

• On the M-AT side, terminology has changed
  • **DPMs** are now called **Objects**
  • **Segments** are now called **Records**
  • **Data elements** are now called **Fields**

• No fragments, macros or *current* ability to use M-AT or FS code inside computed fields
• Rule Editor / Wizard *may* eliminate need for code

• Performance comparisons have been interesting

• All M-AT application data is available with no special “tricks” needed (e.g. fragments)

• No current plan to allow NPR to get data from MAD

• No NPR to M-AT report conversion
IMPROVEMENTS
Improvements in M-AT

- Built-in audit trails of everything
- Improved network performance
- Reduced downtime; increased reliability
- Data corruption virtually eliminated
- Modern screen technology & workflow
• Easier for MEDITECH to support

• A LOT less “locking” issues in FOCUS (thanks to MUTEX)

• The concept of multiple databases is gone
THINKING ABOUT 6.x?
Things to consider...

• Not an update – Installing new platform(s)

• Phased Approach / Multiple Conversions (until 6.2)

• Put in extra effort on report conversion plan!!

• Understand how much data will be converted

• Count the cost & decide on best timeframe
Staying FOCUSED in a MAD, MAD, MAD, MAD World!

Thank you for attending!