Technical Support for the 21st Century
Introduction

Technology has changed …

We have grown …

Needs and capabilities evolving …
Topics and Key Areas to be Presented

- Enhanced Dashboards at Your Fingertips
- Enabling Self-Service for Quick Fixes
- Real-Time Case and Profile Updates
- E-Learning Modules
- Remote Support App with Face-to-Face Service
- Tech Support Chat and Instant Messaging
- Proactive Monitoring and Alerting
- Database Administration – Good for Operations
- Trend Analysis for System Performance
- 3rd Party Patching and Security Updates
- IT Health Check – Prepare for Peak Season
- Business Continuity Planning – Disaster Recovery
Typical Help Desk Use Case Scenario

- **3:00 PM** - A member of the operations team notices the computer is slow to respond when looking up a barcode at the jackpot line.
- **4:00 PM** - Operations Supervisor is notified.
- Some research is performed to address the issue.
- Issue cannot be resolved.
- **4:30 PM** - Dematic Help Desk is called **1-800-530-9153**.
- Help Desk logs a call ticket and begins assisting.
- **4:45 PM** - Remote connection to site is made.
- Discovery effort is performed to identify issue.
- **5:15 PM** – Help Desk identifies the issue.
- The issue turns out to be the hard drive on the server has filled up.
- **7:30 PM** – Issue resolved (average resolution time to recover a full hard drive is between 2 to 4 hours).
E-Portal Self-Service

- Mechanical and Control drawings
- Service Manuals and PM Logs
- Recommended Spare Parts Lists and Product Drawings
- Safety and Product Bulletins
- Audit Reports
- Training
Enhanced Dashboards at Your Fingertips – Your Facility

- First Time Fix
- Case Escalation
- Remote Support Fix Rate
- Cases by Status
- Cases by Equipment Type
- Cases by Model
- Cases by Root Cause
- Support Duration
- Top Caller

Community Plus Global Dashboard
### Compare Multiple Locations

<table>
<thead>
<tr>
<th>Issue</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photo eye 3 issues</td>
<td>they replaced the WRC opticube and it worked to resolve the issue.</td>
</tr>
<tr>
<td>Put to light color</td>
<td>restarted RSFlex and SD common processes.</td>
</tr>
<tr>
<td>Oscillating photo eyes</td>
<td>customer set and cleared an e-step to resolve the issue.</td>
</tr>
<tr>
<td>Replacing Lexium 170</td>
<td>worked with site to get reprogrammed.</td>
</tr>
<tr>
<td>Scanners 201 and 202 are not working well</td>
<td>Restarted RS Flex and SD processes.</td>
</tr>
<tr>
<td>Sorter fault</td>
<td>replaced the sorter ppi.</td>
</tr>
<tr>
<td>Getting a global fault. No watchdog light at all</td>
<td>Reboot and grab logs to review.</td>
</tr>
<tr>
<td>2F errors</td>
<td>Switch setting on a PPI that was replaced was wrong. Gave the site the proper switch settings.</td>
</tr>
<tr>
<td>CC-39 will not turn on / power up</td>
<td>Corrected Long Range photo power wiring.</td>
</tr>
<tr>
<td>RS303 error</td>
<td>Forced demag pulse from the DCM. Details in the comments.</td>
</tr>
<tr>
<td>Upper encoder is not connecting</td>
<td>Reboot the chassis.</td>
</tr>
</tbody>
</table>

**Mount Pleasant, IA - Root Cause**

- **Component Failure**: 1: 17%
- **Communication Failure**: 2: 33%
- **Power Outage**: 1: 17%
- **Maintenance / Operator Procedure**: 2: 33%

**Record Count**

- Total records: 6 cases
- Date range: 04/01/2016 - 04/30/2016

---

We Optimize Your Supply Chain

DEMATIC - CONFIDENTIAL
Compare Your Facility with Other Industry Members

YOUR FACILITY

CUSTOMER A

CUSTOMER B

Total Call Volume by Month & Discipline

Average Call Duration by Month & Discipline

Data/Time Opened

Category

Computer
Electrical
Question
Software

YOUR FACILITY

CUSTOMER A

CUSTOMER B

Average Support Duration

Category

Computer
Electrical
Question
Software

We Optimize Your Supply Chain
The following information is available for your records 24 hours a day, seven days a week from any Web-enabled computer.
E-Learning

Online training is available to Dematic customers to enhance the ability of their maintenance employees to perform their job duties.

- Training is consistent between all students
- Online quizzes provide immediate feedback.
- Review quiz results and retry exercises as needed
- Can attend a course at any time, from anywhere
- Training is available on many subjects
- Lower cost than on-site training
- Management can track student progress through reports.
- Skip sections with familiar content and spend more time on needed material
Site View - App with Face-to-Face Service

- A picture is worth a thousand words.
- Bring your support person with you to the issue.
- Use your mobile device to share what you see.
- Decrease search duration.
- Increase Troubleshooting accuracy.
- Share audio and video at the same time.

COMING SOON!!
Tech Talk – Chat

- Skip the phone call
- Get answers immediately
- Chat from your mobile device
- Get information in hard to hear locations
Proactive Monitoring and Alerting

-24/7 Monitoring by Dedicated Team at Dematic
  - Database
  - Servers & Related Hardware
  - Network
  - Operating System
  - Software Application
  - Scheduled Jobs and Tasks

-Trend Analysis and Lifecycle Planning

-Partnership with Help Desk, Engineering, R&D
Managed Services Program Model

- **Managed Services**
- **Technical Support**
  - **Database Administration**
    - Optimize Database Performance as You Grow
  - **3rd Party Software Patching**
    - Protect your Infrastructure against Vulnerabilities
  - **System Monitoring**
    - Notification of Failures and Problems when they Occur
  - **Software Maintenance**
    - Keep Your Dematic Application Up to Date
  - **Remote Support**
    - 24 x 7 Assistance at your Fingertips

We Optimize Your Supply Chain
Key Areas of Monitoring

- Network
- Servers
- Control Cabinets
- IP Devices
- Communication Links
- Scanners Reads
Key Areas of Monitoring - Details

**Node Status (Up/Down):**
- Servers
- Controllers

**Scheduled Tasks/Jobs Completion:**
- Database Purge
- Database Table Re-Indexing
- File Directory Purge
- System Backups

**CPU:**
- Load
- Capacity Forecasting

**Network:**
- Response times
- Utilization

**Virtualization:**
- VMWare
- Hyper-V

**Managed Switch(es):**
- Port Statistics

**Hardware Health:**
- Temperature
- Voltage
- Hard Drive Status
- Power Supply
  - Voltage
  - Watts
  - Temperature
- Network Interface Cards:
  - Fan
  - Battery
  - Array Controller
  - Memory
  - CPU

**Volumes:**
- Physical Drive
- SANs
- Capacity Forecasting

**Process Monitoring:**
- Windows Services
- Executables
- Memory Usage per EXE
- CPU load per EXE

**DB Performance Status:**
- Top Wait Times
- Inefficient Queries
- Storage I/O
- Highest Total Execution Time
- Query Execution Time
- Most Executed Queries
- DB Resource Allocation

**Memory Utilization:**
- Physical
- Virtual
- Capacity Forecasting

We Optimize Your Supply Chain

DEMATIC - CONFIDENTIAL
Database Administration and Checklist Tasks

**Daily**
- MSSQL Server Database Available
- MSSQL Database Backup Successful
- Review MSSQL Archive Logs
- Review MSSQL Segment Contentions
- Review MSSQL DB Log/Trace Files
- Review Database Performance Analyzer
- Generate MSSQL Activities Report
- Verify Log file purge
- Verify DB Growth and Purge rate
- Log Memory usage
- Check for Mini Dumps to be reviewed by Dematic Development
- Confirm PLC Communications
- Verify Veeam Backup Success

**Weekly**
- Review MSSQL CPU and Memory usage
- Review MSSQL DB file extensions and free space
- MSSQL Purge old trace files
- MSSQL User changes

Keep the database tuned and running at maximum performance!
Database Analysis Example

A. High Level – Day
B. Next – by Hour
C. Then – Procedure

Solution
We Optimize Your Supply Chain

**Trend Analysis Monitoring - CPU**

- Reporting, escalation, and communication of critical or near term constraints.
- Monthly report of capacity usage with recommendations for changes based on usage trending.

<table>
<thead>
<tr>
<th>Server Name</th>
<th>% Last Month</th>
<th>3 Month Average</th>
<th>6 Month Average</th>
<th>Number of Processors</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DematicTools</td>
<td>2.67</td>
<td>2.54</td>
<td>2.34</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Trending Up**

**Trending Down**

![Graph showing CPU load percentage with trend lines](image)

**Graph Showing CPU Load Percentage**

- **Trending Down**
- **Trending Up**

**Table Showing Server Stats**

<table>
<thead>
<tr>
<th>Server Name</th>
<th>% Last Month</th>
<th>3 Month Average</th>
<th>6 Month Average</th>
<th>Number of Processors</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DematicDB</td>
<td>0.69</td>
<td>2.35</td>
<td>3.64</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

**Server Stats**

- **Trending Down**
- **Trending Up**
3rd Party Patching

Patch Validation - TEST:
- Report tailored to the customer's installed Dematic solution that lists the patches that have passed compatibility testing with their Dematic solution.
- End of Support Notification

Software Patching - APPLICATION:
- Updated computing systems that support the Dematic solution.
IT Health Checks

- Summary of findings that will include an overall status of the servers, risks found, and mitigation plans for the customer
- Recommendations for the systems, software, and operational processes that will meet the business needs

**Table 1: Server Health Audit**

<table>
<thead>
<tr>
<th>Disk</th>
<th>SQL Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Version</td>
</tr>
<tr>
<td>Raid Level</td>
<td>MS SQL 2005</td>
</tr>
<tr>
<td>Hard Drive Controller</td>
<td>Check Purges: OK</td>
</tr>
<tr>
<td>Fragmentation Percentage</td>
<td>Check Indexes: OK</td>
</tr>
<tr>
<td>Free Space</td>
<td>Check SQL Logs: OK</td>
</tr>
<tr>
<td>Run Diagnostics</td>
<td>Check SQL Jobs: OK</td>
</tr>
<tr>
<td>Number of Bad Sectors</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dematic Software</th>
<th>Name and Version</th>
<th>Server Comm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. DematicFramework 2.5.0</td>
<td></td>
<td>RSCC</td>
</tr>
<tr>
<td>2. Process Manager 3.0.0.1921</td>
<td></td>
<td>PLC - PCLINK: OK</td>
</tr>
<tr>
<td>3. LMS 5.0.0.1921</td>
<td></td>
<td>Serial Devices</td>
</tr>
<tr>
<td>4. SortDirector 5.5.0.1921</td>
<td></td>
<td>Network Devices</td>
</tr>
<tr>
<td>5. SortDirector 5.5.0.1921 HF10 &amp; 2</td>
<td></td>
<td>Scanners</td>
</tr>
</tbody>
</table>

- **Issue:** Moderate Fragmentation found on all servers/drives
- **Cause:** Jobs not scheduled
- **Recommendation:** Schedule Defragmentation Jobs during non-production times.
Validation of Backup Jobs and Assistance with Disaster Recovery Planning

- Review site backup and recovery mechanisms to ensure they are operating correctly
- Identify key components of system that will require special handling during a disaster recovery effort.
- Determine the full effort required to bring systems back online as well as restoring the production data to resume operations.
- Document the necessary steps to perform during a disaster recovery effort along
- Validate processes and procedures are in place for quick recovery from unplanned outages
- With customer assistance, conduct recovery or business continuity test(s)
Thank you

Cultivate the most life out of your Dematic system
We Optimize Your Supply Chain