Raising Standards. Bridging Technologies. Building Value.

TL 9000 Measurements and Benchmarking

Ken Koffman & Tom Yohe

2009 EMEA Best Practice Conference

Agenda

- TL 9000 Performance Data Report (PDR) data
  - Lets understand what is published - what, when, and how
- PDR Outputs
  - Monthly Average, Best in Class, Worst in Class, & Industry Average
- How to access the data
- How to analyze and use
  - Positioning your product
  - Validating data
  - Setting targets
  - Handling Anomalies
- Tracking performance to targets
- Summary

References

- **TL 9000 Measurement Outputs and Calculations – Release 4.0**
  - **Latest revision – 1 June, 2007**
  - **Located on Member's Performance Data Reports page and at:**

http://www.tl9000.org/tl_resources/TL_9000_Measurement_Outputs_and_Calculations.pdf

- **How to Use QuEST Forum TL 9000 Measurement Performance Data Reports**

http://www.tl9000.org/tl_resources/PDR_Usage.pdf

Acknowledgements: PDR Improvement Team

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- Richard Morrow - UTD
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- Alice Woo – Juniper Networks
- John Wronka – Alcatel-Lucent – Sub-team Lead
- Tom Yohe – Telmar Network Technology

Lets Understand the PDR Data: What, How, and When

What is published?

- For each Product Category, we publish all required measurements
- For each measurement, we publish
  - Monthly Average
  - Best in Class
  - Worst in Class
  - Industry Average
  - # of data points associated with each of above

Monthly Average

- Composite average
- For a given measure
  - All submitted values are summed
  - Resulting sums are used in the formula for the measurement
- Represents overall performance based on all of the data submitted for the month
- Same method all measurements

Best In Class

- Best performance - smoothed data
- Single certified registration
- Submitted data for each month of smoothing period (minimum 6 months)
- To be included in Best In Class the sum of the Registrations submissions must be either:

  >=2% of the sum of the denominators for all submissions or

  >= threshold value for the category

  which ever is smaller
- FRT/OFR based on NPR denominators

Worst In Class

- Worst performance - smoothed data
- Single certified registration
- Submitted data for each month of smoothing period (minimum 6 months)
- To be included in Worst In Class the sum of the Registrations submissions must be either:

  >=2% of the sum of the denominators for all submissions,

  >= threshold value for the category, or

  >= 5% of sum of numerators for all submissions

Industry Average

- Composite average of all data for the smoothing period from the eligible data
- FRT and OFR based on average value calculation for comparability to BIC/WIC
- Therefore, includes only certified registrations that have submitted data for each month of the smoothing period (minimum 6 months) and has over 2% of the reported population or meets floor threshold number

Data Rules

- Data from certified registrations only
- At least three separate companies
- Process governed by Section 3.5.1 e) in the Measurements Handbook

Basics

- All data converted to identical basis
  - Calendar month
  - Most current revision
- Last 24 months calculated each time
- Multiple submissions from same registration (TL ID) aggregated
- Multiple registrations from same company not combined (except for 3 company rule)

Monthly Average Example NPR1

Submission	#1	#2	#3	#4	#5
Np1	2	5	4	2	3
NPRs	15	30	20	16	30

- Np1 sum = 2+5+4+2+3 = 16
- NPRs sum = 15+30+20+16+30 = 111
- Monthly Average NPR1 = 12*16/111
  = 1.73

Smoothed Outputs

- Want Best In Class and Worst In Class based on sustained performance
- Data smoothed by using composite average for six or twelve month period
- Calculated by TL registration ID for smoothing period
- No number calculated if data not available for each month of the period

Smoothing Periods

- Six months
  - NPR, FRT, OFR, OTI, SFQ, SPR
- Twelve months
  - OTS, SO, SONE, EIO, FR, SQ
  - Report after six months for new category

FRT & OFR Exception

- Value set to 100% if there is no data
  - No problems due for FRT
  - No problems overdue for OFR
- Using composite average would penalize perfect monthly performance
- Smoothed number based on average of the monthly calculated values

FRT2 Average Example

Month	1	2	3	4	5	6
Fr2c	0	0	1	0	0	0
Fr2d	0	0	1	1	0	0
FRT2	100	100	100	0	100	100

- Average value = 500/6 = 83.3%
- Composite value = ½ = 50.0%

Eligibility Floors

- Vary by product category and measurement
- Example – 3.2.4 DSL
  - NPR – 500 NE's
  - FRT – 120 NE's (from NPR)
  - OTI – 600 items
  - SONE – 500 NE's
  - FR – 50,000 FRU's
- Table 6 in reference document

Zero Denominator Rules

- **Numerator and denominator are zero**

  0/0

- **Numerator >zero and denominator = zero**

  n/0

- **Possible interpretations**

  0

  100%

  Not Valid

  No Data

Zero Denominator Rules

Measurement	0/0	n/0
NPR1,2,3	Not valid	Not valid
NPR4	No data	n/1
FRT2,3,4	100%	Not valid
OFR2,3,4	100%	Not valid
OTI	No data	Not valid
OTS	No data	Not valid
SO1-4	No data	Not valid
NEO1-4	No data	Not valid

Zero Denominator Rules

Measurement	0/0	n/0
EOF/IOF	No data	n/1
ERI, YRR, LTR	No data	Not valid
NYR	No data	n/1
SFQ	No data	n/n
SPR1,2,3	Not valid	Not valid
SQ	No data	n/n

2009 Schedule

Processing and Posting Date	Date of Data
31-Jan-09	**Dec 2006 through Nov 2008**
28-Feb-09	**Jan 2007 through Dec 2008**
28-Mar-09	**Feb 2007 through Jan 2009**
25-Apr-09	**Mar 2007 through Feb 2009**
30-May-09	**Apr 2007 through Mar 2009**
25-Jun-09	**May 2007 through Apr 2009**
27-Jul-09	**Jun 2007 through May 2009**
29-Aug-09	**Jul 2007 through Jun 2009**
26-Sep-09	**Aug 2007 through Jul 2009**
31-Oct-09	**Sep 2007 through Aug 2009**
28-Nov-09	**Oct 2007 through Sep 2009**
26-Dec-09	**Nov 2007 through Oct 2009**

Access to PDR Data – Members

1. Log in at questforum.org or tl9000.org
2. Select “Member’s Area” from left menu
3. Select “Performance Data Reports” under “Resources” from center menu
4. Read usage agreement and select “I Agree”
5. View on line or download single product category or download all product categories

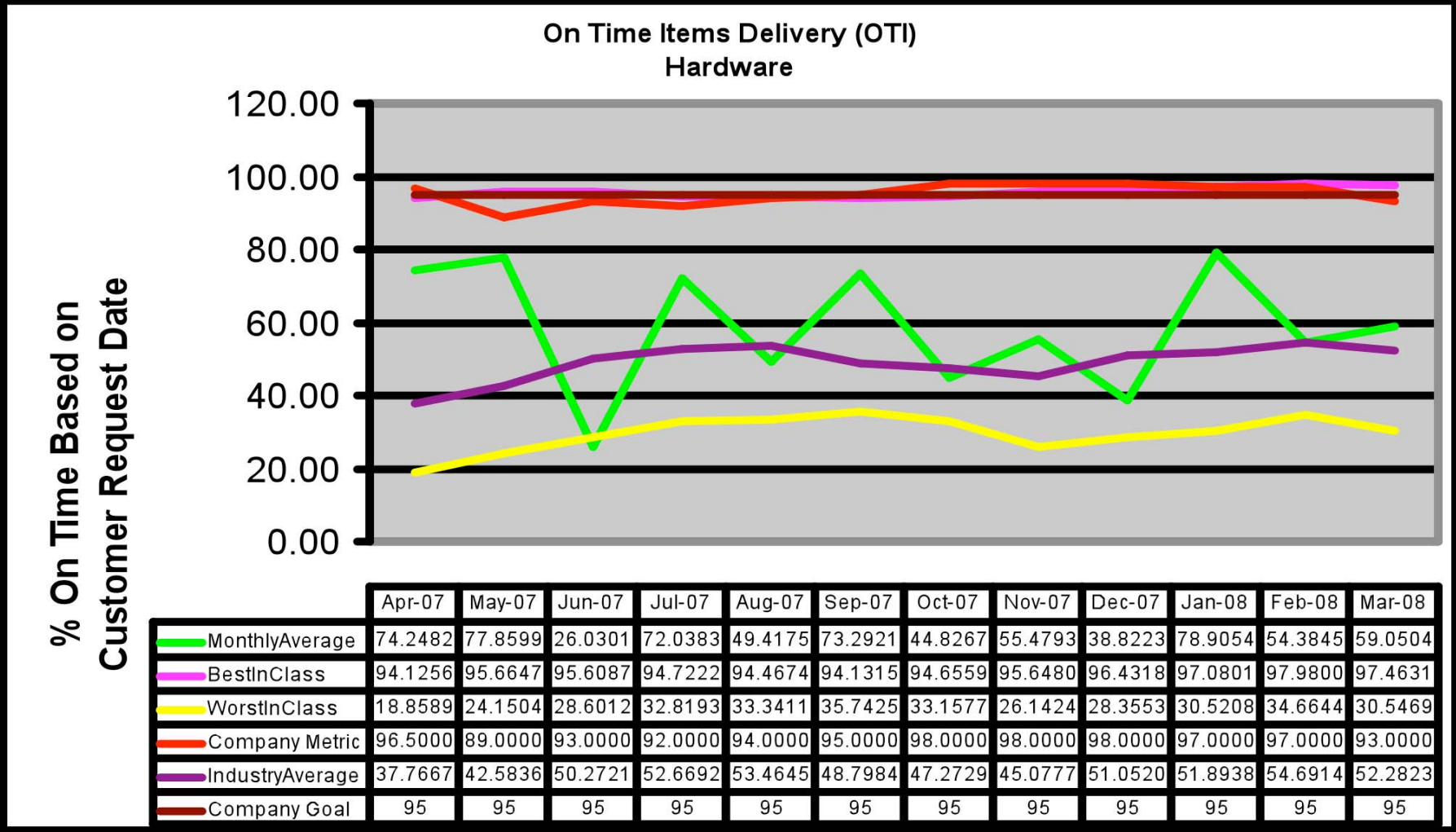
Purchase of PDR Data

		One Category	All Categories
Introductory Pricing	QuEST Forum Affiliate (Liaison Member, TL 9000 Registered Company)	$250	$1,250
	Not a QuEST Forum Affiliate	$500	$2,500
Long-Term Pricing	QuEST Forum Affiliate (Liaison Member, TL 9000 Registered Company)	$500	$2,500
	Not a QuEST Forum Affiliate	$2,500	$15,000

Importing PDR data into Excel

- Open the text file in a text editor such as Notepad.
- Select all the text in the file and Copy.
- Open Excel.
- Go to a convenient cell and select Paste.
- Next select the column with the text, all rows.
- Select Data then Text to Columns.
- Click the delimited radio button.
- Click the Comma check box only. Do not select the Space check box.
- Make sure the 'Treat Consecutive Delimiters as One' is not checked.
- Click Next then Finish
- Detailed step by step procedure is included at end of presentation

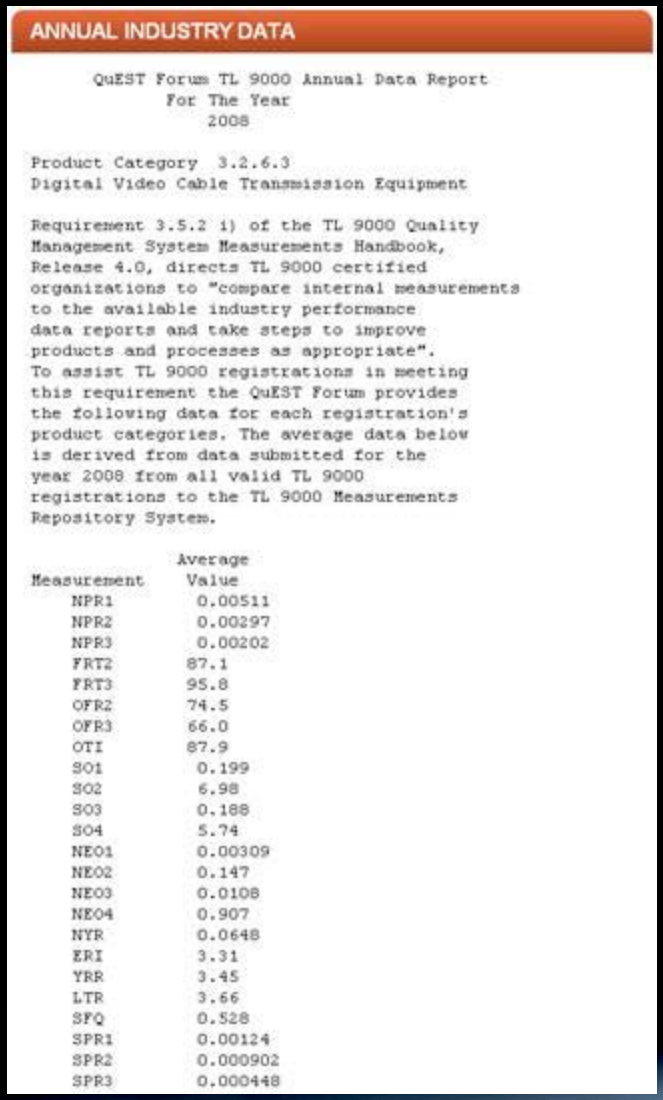
Example



	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08
MonthlyAverage	74.2482	77.8599	26.0301	72.0383	49.4175	73.2921	44.8267	55.4793	38.8223	78.9054	54.3845	59.0504
BestInClass	94.1256	95.6647	95.6087	94.7222	94.4674	94.1315	94.6559	95.6480	96.4318	97.0801	97.9800	97.4631
WorstInClass	18.8589	24.1504	28.6012	32.8193	33.3411	35.7425	33.1577	26.1424	28.3553	30.5208	34.6644	30.5469
Company Metric	96.5000	89.0000	93.0000	92.0000	94.0000	95.0000	98.0000	98.0000	98.0000	97.0000	97.0000	93.0000
IndustryAverage	37.7667	42.5836	50.2721	52.6692	53.4645	48.7984	47.2729	45.0777	51.0520	51.8938	54.6914	52.2823
Company Goal	95	95	95	95	95	95	95	95	95	95	95	95

Available to All TL 9000 Registrants

- Annual Data
- Published once per year for prior calendar year
- Accessible through the RMS
  - Log into RMS
  - Select a registration
  - View private registration profile
  - Double click category number



ANNUAL INDUSTRY DATA

QuEST Forum TL 9000 Annual Data Report
For The Year
2008

Product Category 3.2.6.3
Digital Video Cable Transmission Equipment

Requirement 3.5.2 i) of the TL 9000 Quality Management System Measurements Handbook, Release 4.0, directs TL 9000 certified organizations to "compare internal measurements to the available industry performance data reports and take steps to improve products and processes as appropriate". To assist TL 9000 registrations in meeting this requirement the QuEST Forum provides the following data for each registration's product categories. The average data below is derived from data submitted for the year 2008 from all valid TL 9000 registrations to the TL 9000 Measurements Repository System.

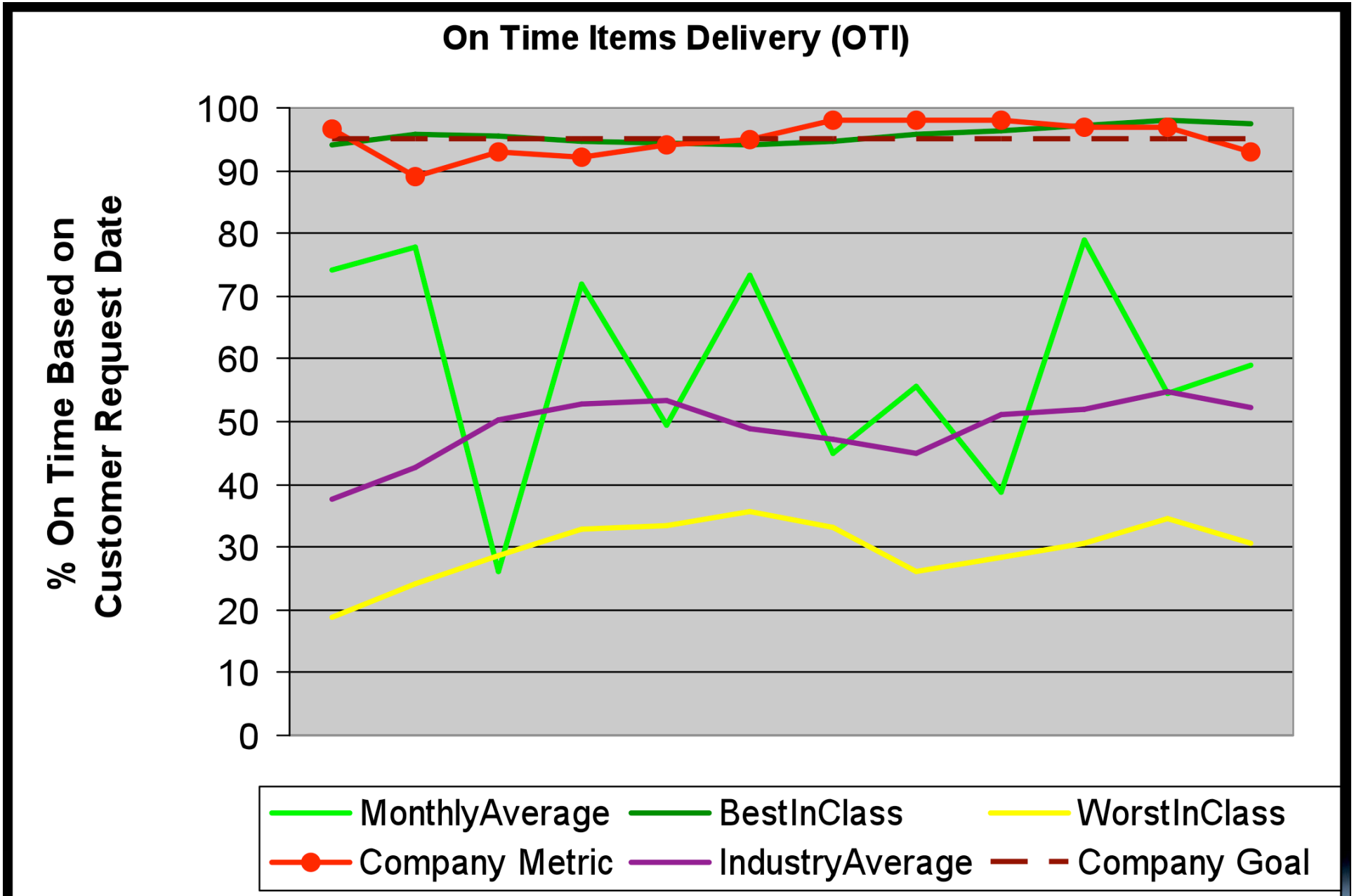
Measurement	Average Value
NPR1	0.00511
NPR2	0.00297
NPR3	0.00202
FRT2	87.1
FRT3	95.8
OFR2	74.5
OFR3	66.0
OTI	87.9
SO1	0.199
SO2	6.98
SO3	0.188
SO4	5.74
NEO1	0.00309
NEO2	0.147
NEO3	0.0108
NEO4	0.907
NYR	0.0648
ERI	3.31
YRR	3.45
LTR	3.66
SFQ	0.528
SPR1	0.00124
SPR2	0.000902
SPR3	0.000448

XML Access

- Contact UTD for information on setting up XML access to the Trend data

- Contact button on the web site or e-mail to contact@questforum.org

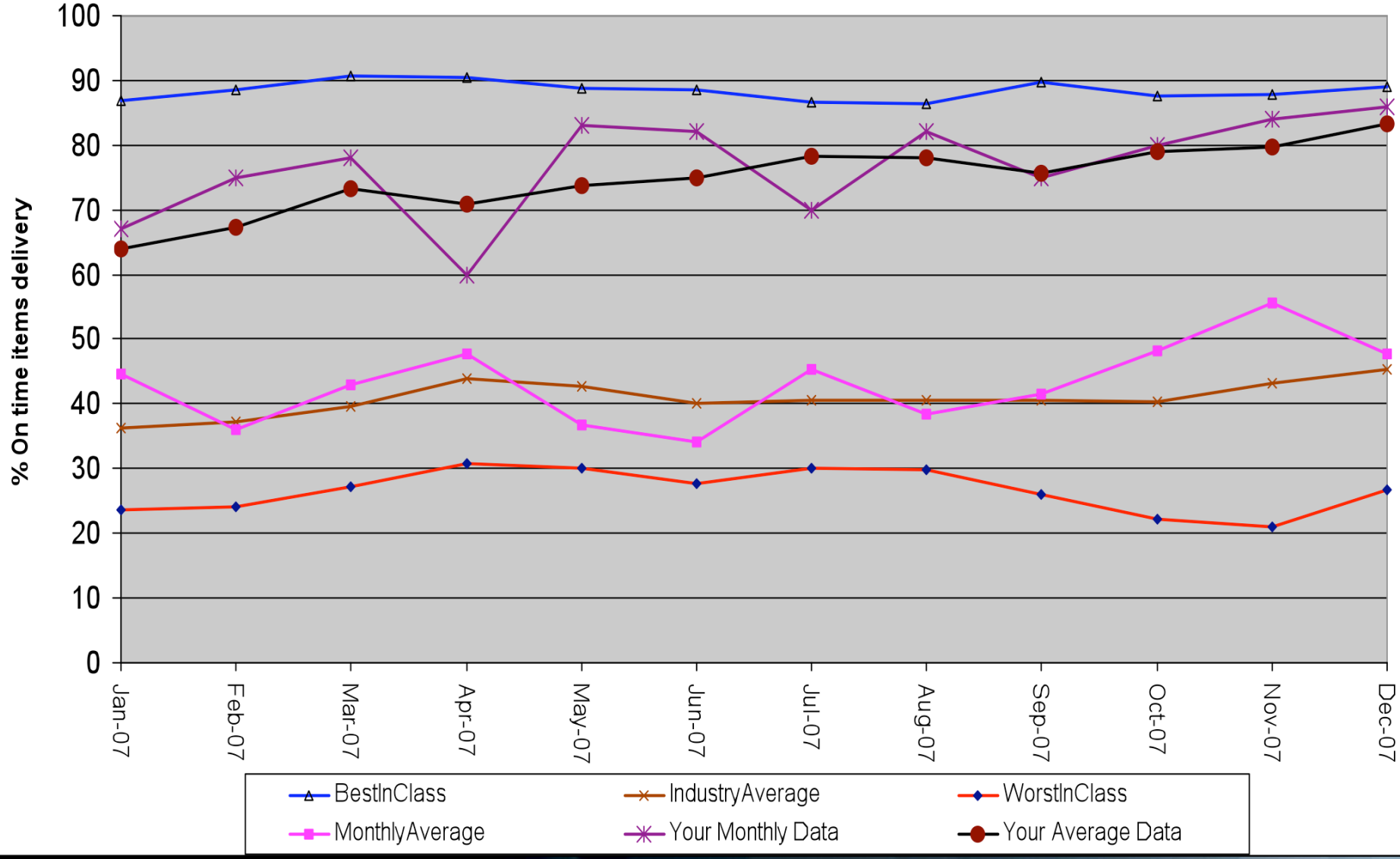
How to Analyze and Use Trend Data



Observations

- **BIC, WIC, and IA stable compared to Monthly average**
- **Company data also relatively smooth and near BIC and goal**
- **Goal setting discussed later**

Product Category 3.2.2.1.2.2
WDM/DWDM/Optical Amplification
OTI



Observations

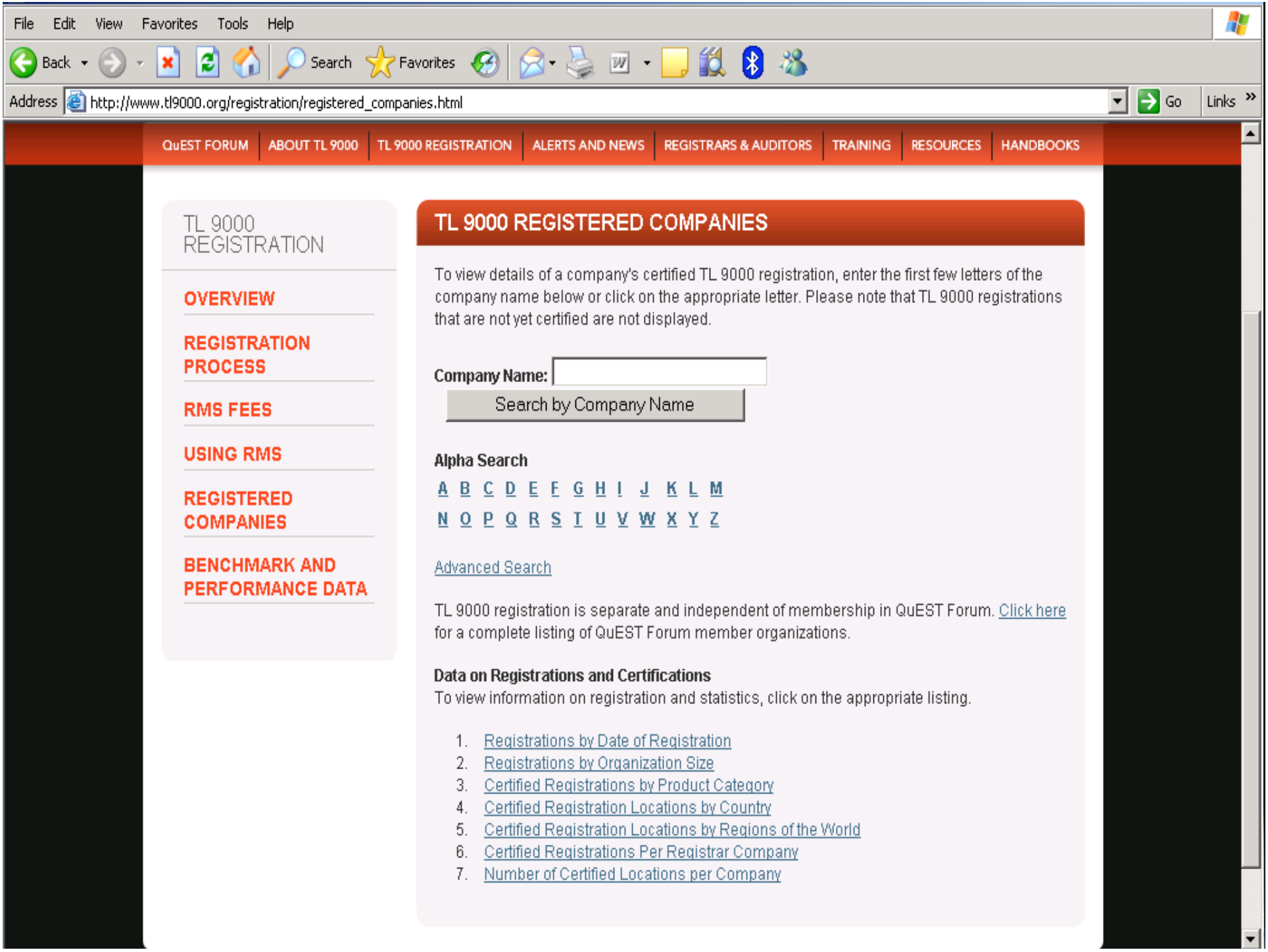
- Company's monthly data more volatile
- Chose to smooth with 3 month running average
- Resulting plot shows strong evidence of continuous improvement
- 65% to 85% on time over the 12 months

Validating the Data

Identifying the Competition

- Need to understand who is contributing data in your product category
- Tools available on tl9000.org
- From top menu select –

  TL 9000 Registration
  Registered Companies


File Edit View Favorites Tools Help
Back Search Favorites
Address http://www.tl9000.org/registration/registered_companies.html
Go Links
QuEST FORUM | ABOUT TL 9000 | TL 9000 REGISTRATION | ALERTS AND NEWS | REGISTRARS & AUDITORS | TRAINING | RESOURCES | HANDBOOKS
TL 9000 REGISTRATION
OVERVIEW
REGISTRATION PROCESS
RMS FEES
USING RMS
REGISTERED COMPANIES
BENCHMARK AND PERFORMANCE DATA
TL 9000 REGISTERED COMPANIES
To view details of a company's certified TL 9000 registration, enter the first few letters of the company name below or click on the appropriate letter. Please note that TL 9000 registrations that are not yet certified are not displayed.
Company Name:
Search by Company Name
Alpha Search
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z
Advanced Search
TL 9000 registration is separate and independent of membership in QuEST Forum. Click here for a complete listing of QuEST Forum member organizations.
Data on Registrations and Certifications
To view information on registration and statistics, click on the appropriate listing.
1. Registrations by Date of Registration
2. Registrations by Organization Size
3. Certified Registrations by Product Category
4. Certified Registration Locations by Country
5. Certified Registration Locations by Regions of the World
6. Certified Registrations Per Registrar Company
7. Number of Certified Locations per Company

Searching TL Registered Companies

- Can search by:
  - Company
  - Product Category (under Advanced Search)
  - Use specific reports
- Report 3 – Certified Registrations by Product Category
- Note – all reports are dynamic based on data at the time they are run

Example - TL Registered Companies (10-Jun-09)

Product Category	Product Category Name	No. of Certified Registrations	No. of Certified Companies
1.1	**Circuit Switch**	**14**	**11**
1.2.2	**Access Multi-service**	**20**	**17**
1.2.3	**Media Gateways**	**4**	**3**
1.2.5	**Broadband Multi-service**	**1**	**1**
1.2.6	**Packet Gateway**	**3**	**3**
1.2.7	**Application Servers**	**9**	**8**
1.2.8	**Service and Network Controller (SNC)**	**8**	**5**
1.2.9.1	**Core Routers**	**12**	**11**
1.2.9.2	**Edge Routers**	**17**	**16**
1.2.9.3	**Access Routers**	**2**	**2**

1.2.8 SNC

Registered Name	TLID
Lucent Technologies – Switching Solutions	**1016**
Alcatel-Lucent (North America)	**1056**
Alcatel Shanghai Bell Company Limited	**2363**
Alcatel FSD	**4238**
Huawei Technologies Co., Ltd.	**2207**
Nortel, Carrier Networks & Common Engineering	**2444**
Xener systems	**3518**
ZTE Corporation	**3161**

Observations

- Can go from Report 3 to listing for category
- This example 8 registrations, 5 companies
- Can go from category list to scope for each registration – examine for
  - H, S, or V or combination (determine measures being reported)
  - Locations
  - Products
  - Exclusions

Analysis

- Are these my key competitors / customers?
- How much of the market is represented?
- If key competitors missing or if only small portion of market is there, are BIC or WIC useful?
- Do I use only Industry Average?
- What is the delta between IA and Monthly Average?
- Other sources? – Benchmark study?

Impact of Your Data

- Use competitive analysis to assess what percent of the data going in is yours
- Need to gauge the industry statistics if contribution is large
- If you are large contributor and just below IA – true IA likely higher than shown
- Opposite effect if you are higher then IA

Setting Targets

- Product life cycle
  - New/growing, mature/volume, maintenance, end of life?
- Importance of measure to customer
  - Expectations, SLAs, score cards / objectives
- Capability to improve
- Cost to improve
- Not going to go for BIC for all measures for all products

Anomalies

Anomalies

- All statistical data will have anomalies
- Variability should not immediately cause you to discard the data
  - Important competitive information is likely still available for use
- Understanding counting rules, exclusion rules, measurement population can allow Organizations to utilize this competitive information

How Do You Interpret When:

- The Best in Class for the measurement is consistently perfect?
- The Worst in Class is much worse than the average?
- You see spikes/valleys in the Monthly averages

Perfect Best in Class

- **Remember, BIC data point for a month is:**
  - **A single company's performance**
  - **Their performance over most recent 6/12 month period for that measurement**
  - **They are a significant "player" in the market for this Product Category**
    - **They must also represent > 2% of the NU's for a normalized measurement (or have > defined threshold)**

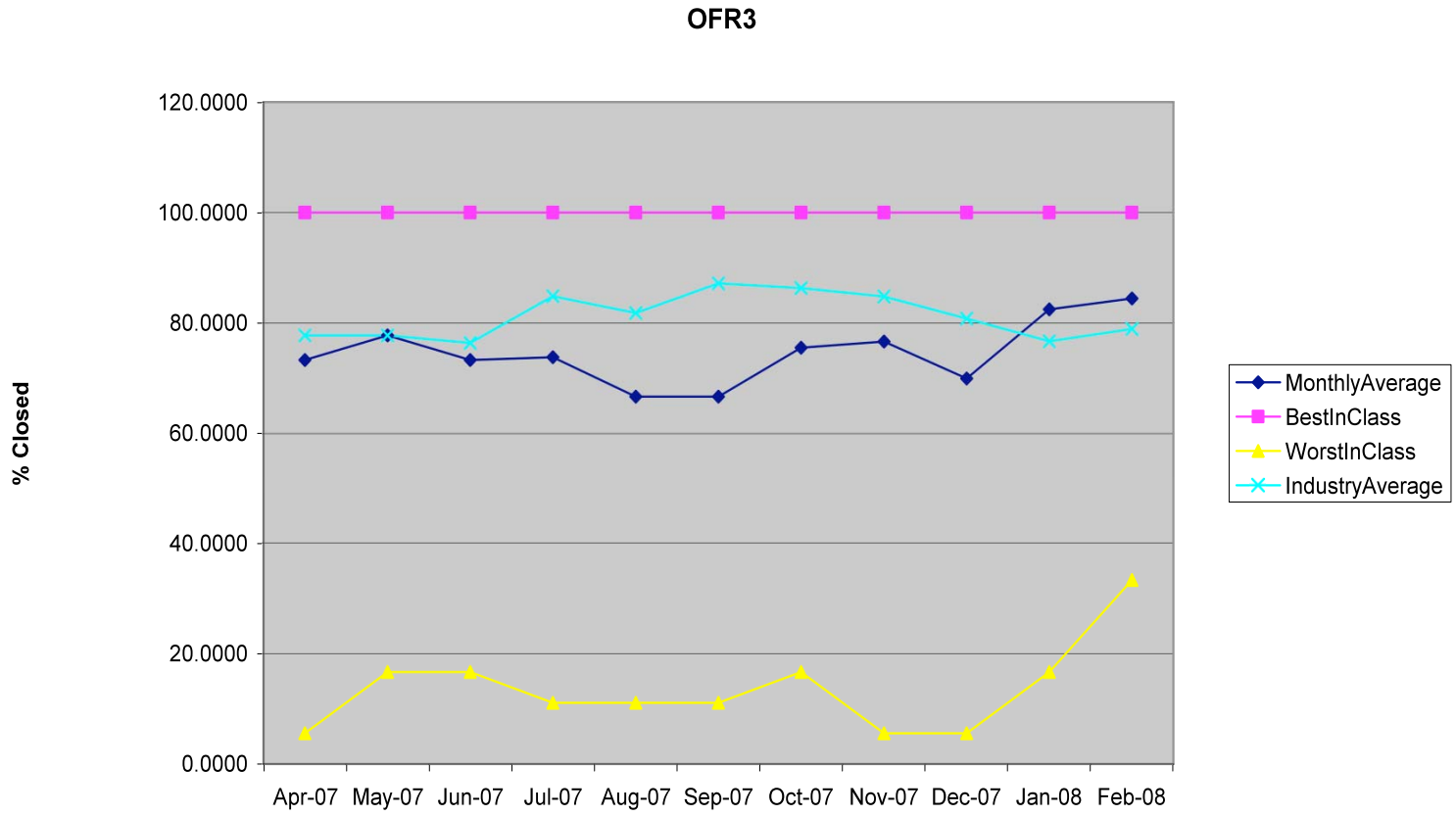
Perfect Best In Class (Cont.)

- So what could a perfect BIC mean?
  - Company could be measuring mature product(s)
    - Those late in life cycle will tend to perform better
      - OTD, NPR, OFR tend to show better performance late in life cycle
      - Lower NPR tends to allow better FRT performance
    - Research registered companies/product to determine if this applies
  - Company could exceed minimum thresholds but still have a small portion of total market
    - Research registered companies/product to determine if this applies
  - Combination of two items above
    - Try to understand contribution when multiple products in Product category
      - High % of mature product will likely show better results vs. equal distribution of product deployments

Perfect Best in Class (Cont.)

- So if you see perfect BIC, what should you do?
  - Acknowledge consistent excellent performance by competition
    - At least one company is able to consistently perform at “perfect” levels (6/12 months consecutively)
  - Don’t immediately accept that this is performance you need to strive for
    - Review competitors registered in Product Category
    - Look at how many data points are included in BIC, when they entered
    - Try to identify products / market penetration for those products
    - Look at gap between Industry average and BIC
    - Make intelligent decision as to how representative the BIC could be
    - If its representative, you now know you have a high bar to strive for!
    - Now set your objectives consistent with your organization’s strategy

Perfect BIC - Example



	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08
MonthlyAverage	73.3333	77.7778	73.3333	73.8095	66.6667	66.6667	75.5556	76.6667	70.0000	82.5000	84.4444
BestInClass	100	100	100	100	100	100	100	100	100	100	100
WorstInClass	5.5556	16.6667	16.6667	11.1111	11.1111	11.1111	16.6667	5.5556	5.5556	16.6667	33.3333
IndustryAverage	77.7778	77.7778	76.3889	84.8485	81.8182	87.1795	86.3248	84.8291	80.7870	76.7094	78.9352

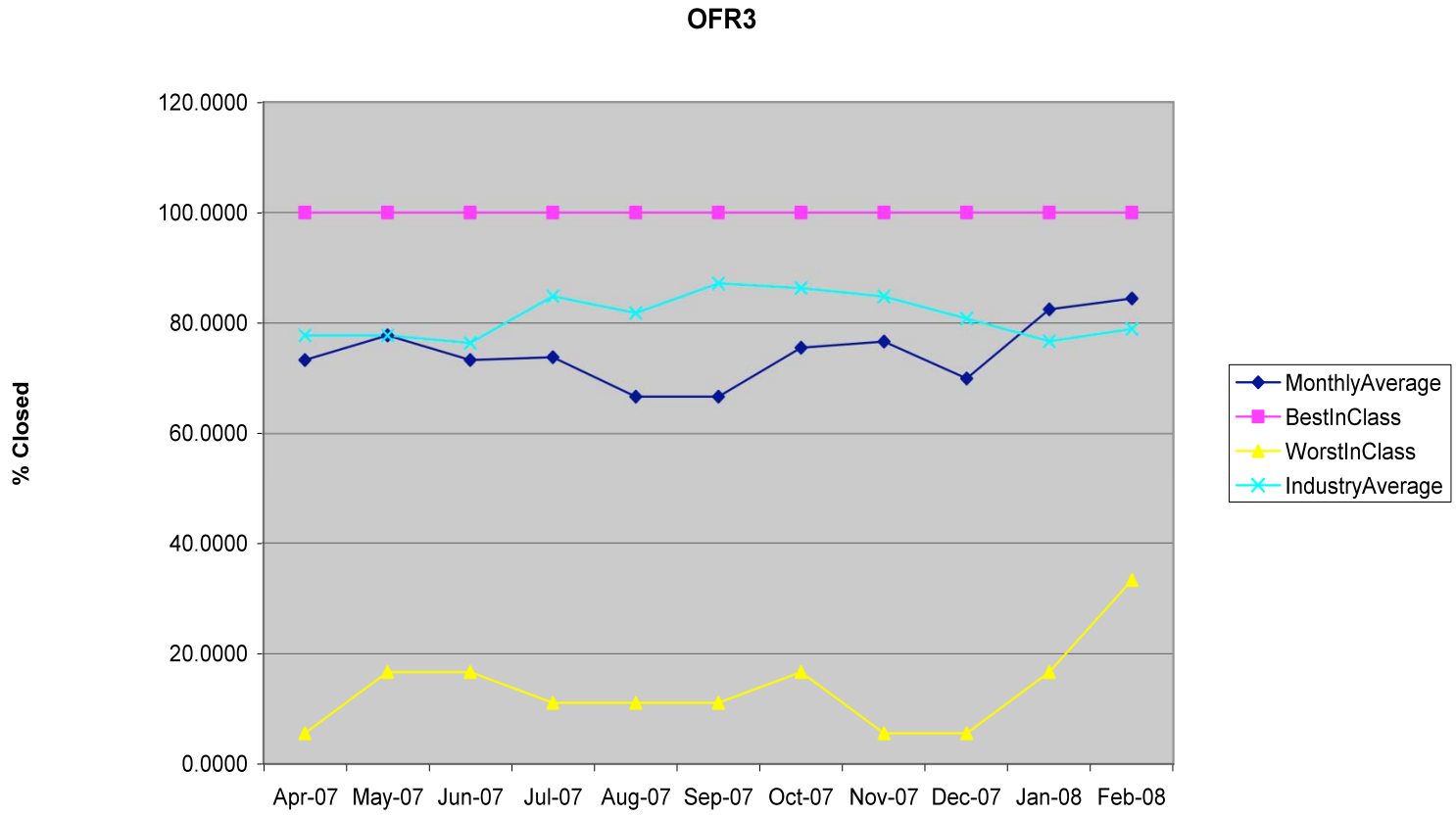
Worst in Class Far Below Industry Average

- **Pay attention when you see this**
  - **You want to understand integrity/impact on Industry Average**
    - **Just as for BIC, WIC is a single company's performance**
    - **WIC represents their performance over most recent 6/12 month period for that measurement**
    - **They're a significant "player" for the measure for this PCT**
      - **They must also represent > 2% of the NU's for a normalized measurement (or have > defined threshold)**
      - **Or the Organization's contribution to the numerator for that measurement must represent > 5% of the total for the time window**

WIC Far Below IA (Cont.)

- So what should you do to interpret this situation
  - Look at the registered Organizations
  - Look at how many data points are included in WIC
    - Review when Organizations became certified and when their data could begin to be eligible
  - Try to identify products / market penetration for Organizations likely included in data
  - Look for potential “event” driven spikes
    - Could see this by seeing simultaneous shift for WIC and IA
    - Single event for smaller “player” could create large shift between WIC and IA
    - Make intelligent decision as to how representative the WIC and IA could be

WIC Far Below IA - Example



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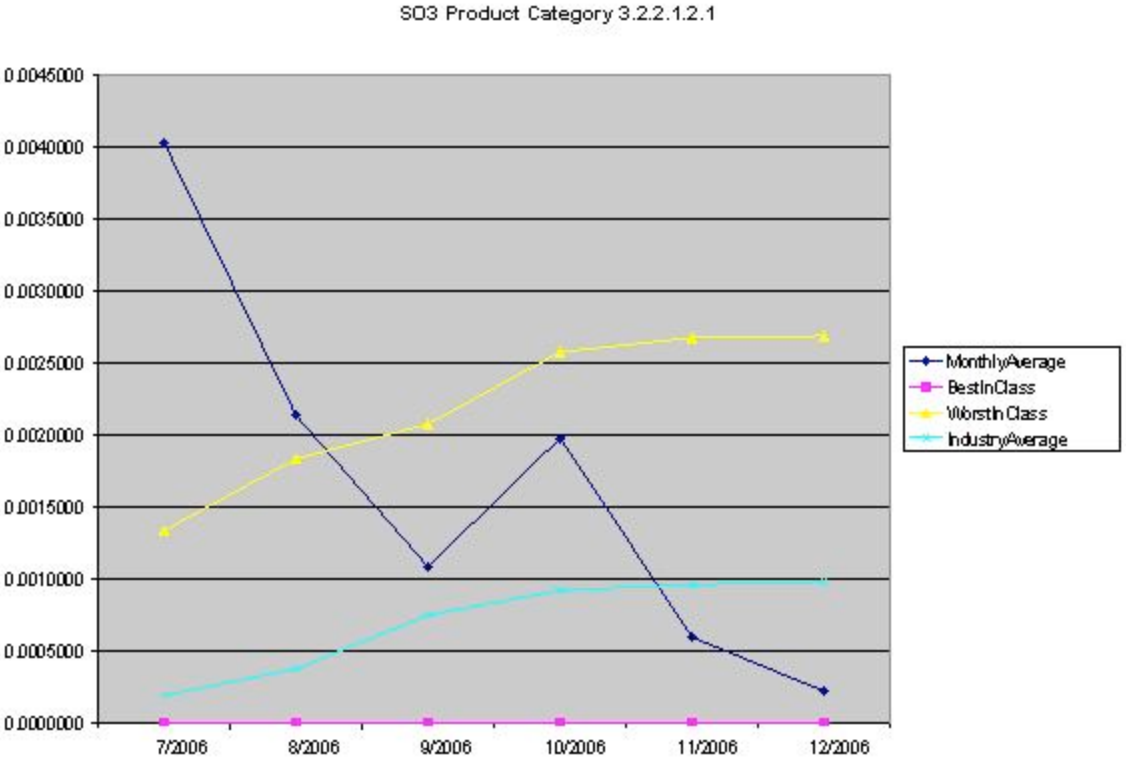
MonthlyAverage	73.3333	77.7778	73.3333	73.8095	66.6667	66.6667	75.5556	76.6667	70.0000	82.5000	84.4444
BestInClass	100	100	100	100	100	100	100	100	100	100	100
WorstInClass	5.5556	16.6667	16.6667	11.1111	11.1111	11.1111	16.6667	5.5556	5.5556	16.6667	33.3333
IndustryAverage	77.7778	77.7778	76.3889	84.8485	81.8182	87.1795	86.3248	84.8291	80.7870	76.7094	78.9352

Spike in Monthly / Industry Average

- Understand difference between measures
  - Monthly Average is single month's performance
  - Industry Average represents sustained performance (6/12 months)
  - Therefore, significantly more volatility in Monthly Average vs IA.
  - But reviewing difference between MA and IA provides clues to whether:
    - Shift is "event" driven
    - Shift influenced by large or less significant player in Product Category
- Look at nominal performance over 2 year period
  - Measures with optimum steady state performance have heavier influence from individual events
    - Examples: Outage data for high reliability PCTs, Return Rates for mature product
- Watch for # of Registered Organizations / data points changing
  - WIC performers leaving market will often generate spike
    - When this occurs, you would see a smaller scope spike in WIC
  - Suspensions due to lack of data submissions can also drive spikes
- Understand the seasonal nature of Monthly Data
- Make intelligent decision as to what spike could mean

Spike in Monthly / Industry Average Example



SO3 Product Category 3.2.2.1.2.1

Measurement-SO3	7/2006	8/2006	9/2006	10/2006	11/2006	12/2006
MonthlyAverage	0.0040330	0.0021358	0.0010849	0.0019784	0.0005955	0.0002202
BestInClass	0.0000014	0.0000012	0.0000012	0.0000012	0.0000004	0.0000000
WorstInClass	0.0013355	0.0018348	0.0020769	0.0025764	0.0026765	0.0026906
IndustryAverage	0.0001934	0.0003734	0.0007497	0.0009207	0.0009628	0.0009817
MonthlyAveCount	15	15	15	15	15	15
BestInClassCount	4	5	6	6	6	6
WorstInClassCount	4	5	6	6	6	6
IndustryAveCount	4	5	6	6	6	6

Monitoring Performance

Best Practices for Monitoring TL Measurement Performance

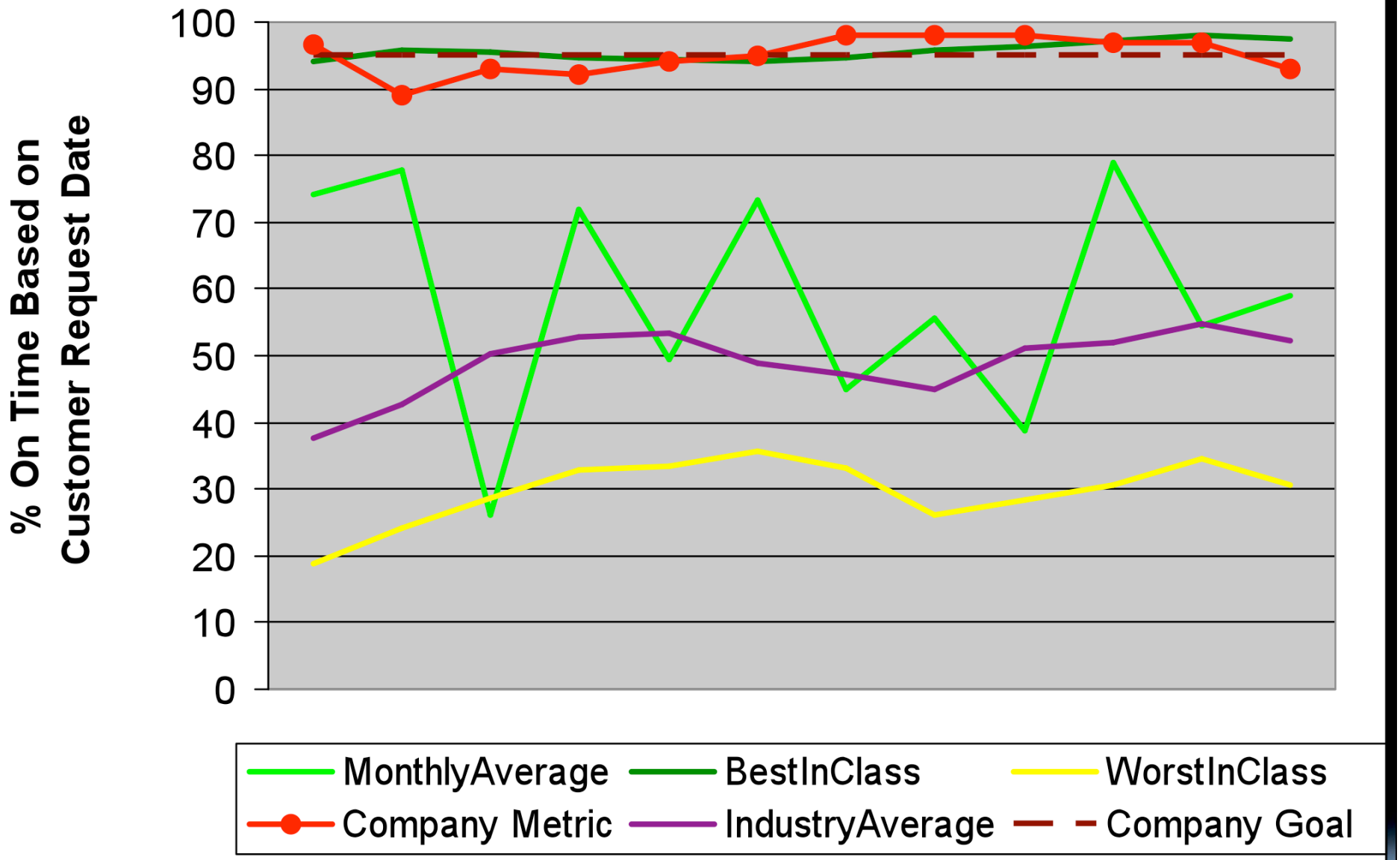
- **TL 9000 allows multiple submissions of data by an Organization for a particular Product Category**
  - **Often useful when tracking**
    - **Multiple products**
    - **Multiple locations**
    - **Multiple processes**
  - **When used, all Organization's data for a single registration is aggregated when creating PDR**
  - **Differentiation can**
    - **Help Organization see weaknesses before it impacts PDR data**
    - **Appreciate performance across segmented areas within Organization**

Best Practices for Monitoring TL Measurement Performance

- **Tracking of Performance vs. Objective**
  - **Pictures work better than words**
  - **Colors / highlights for message key to driving needed change**
  - **Trend charts key in seeing performance shifts**
  - **Charts should show calculations consistent with PDR definitions to support comparability**
  - **Charts should incorporate PDR performance (i.e., BIC, IA, MA, WIC)**

Best Practices for Monitoring TL Measurement Performance

- **Setting of Objectives**
  - **Objectives systemically reviewed for applicability**
    - **Annual is best practice, not more frequent than semi-annual unless market focus changes**
      - **Constant goal shifts causes churn in organization**
  - **Set long and short term goals**
    - **Helps organization understand whether performance optimization or process revamping is required long term**
  - **Key inputs in determining goals**
    - **Corporate strategy**
    - **Current performance**
    - **Industry Benchmarking (ex., TL 9000 PDR data)**
      - **Do due diligence when interpreting industry performance**
      - **Review Organizations included, data stability, data integrity**
      - **Use as important tool and act when appropriate**



Scenarios

- Target set at 95% - close to BIC
- What if:
  - Planning to exit the market?
  - Key growth product?
  - Customer puts premium on OTD?
- For SO Measurement, if your products are a key parts of network – likely to set target at BIC

Performance Improvement

- Reason behind this analysis is to determine areas for improvement
- Likely to require capital investment, manning, and other resources
- Need to treat as a project and use your standard business process improvement techniques

Using TL Measurements to Drive Continuous Improvement

- Include TL Measurement performance and/or improvement in business dashboard / scorecards
- Make objectives (short and long term) very visible to all stakeholders
  - Be smart in setting / adjusting objectives (previous slide)
  - Objectives should be aggressive for strategic focus areas
- Incent executives, teams, and stakeholders based on performance and/or improvement
- Routinely report on performance to all stakeholders
  - Emphasize Organization's performance and trend relative to industry performance
  - Clearly note when direct competitors are in industry data

Feedback Wanted

- PDR Usage Paper
- Need input on
  - usefulness of data
  - what is missing
  - what can be left out
- IGQ team solicited for feedback
  - Discussion area open on QF Website (under IGQ)
  - http://portal.questforum.org/questVer2/jsp/workgroup/mssgBoard/showTopics.jsp?forumId=6&team_id=4

Q&A

Contact Information

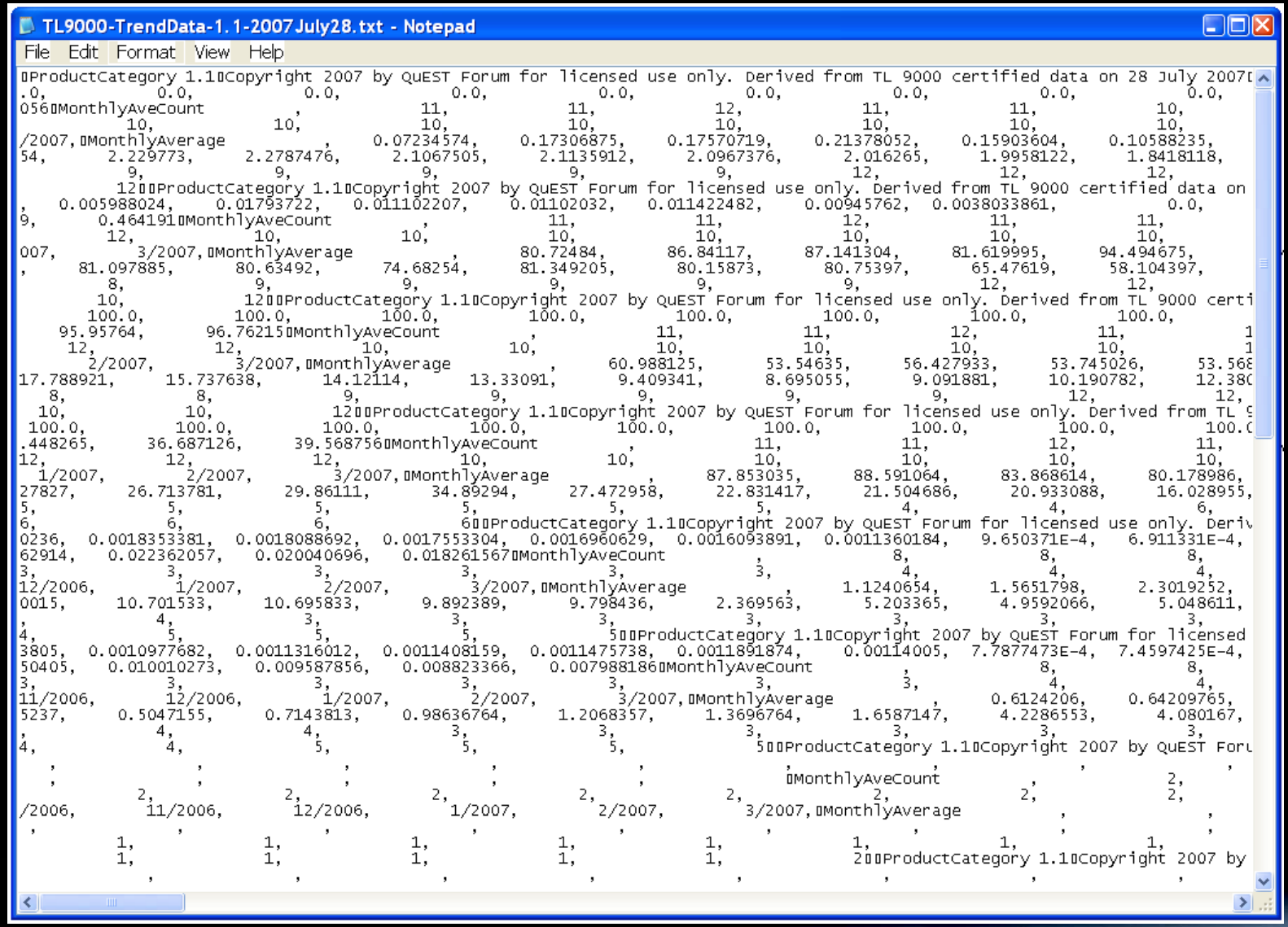
- "TL 9000 Measurements Outputs and Calculation – Release 4.0" on tl9000.org
- Contact function on either web site
  - questforum.org
  - tl9000.org
- Richard Morrow – rmorrow@utdallas.edu
- Ken Koffman – ken.koffman@bigbandnet.com
- John Wronka – jwronka@alcatel-lucent.com
- Tom Yohe – tom.yohe@telmarnt.com

Step by Step Instructions to Import Data into Excel

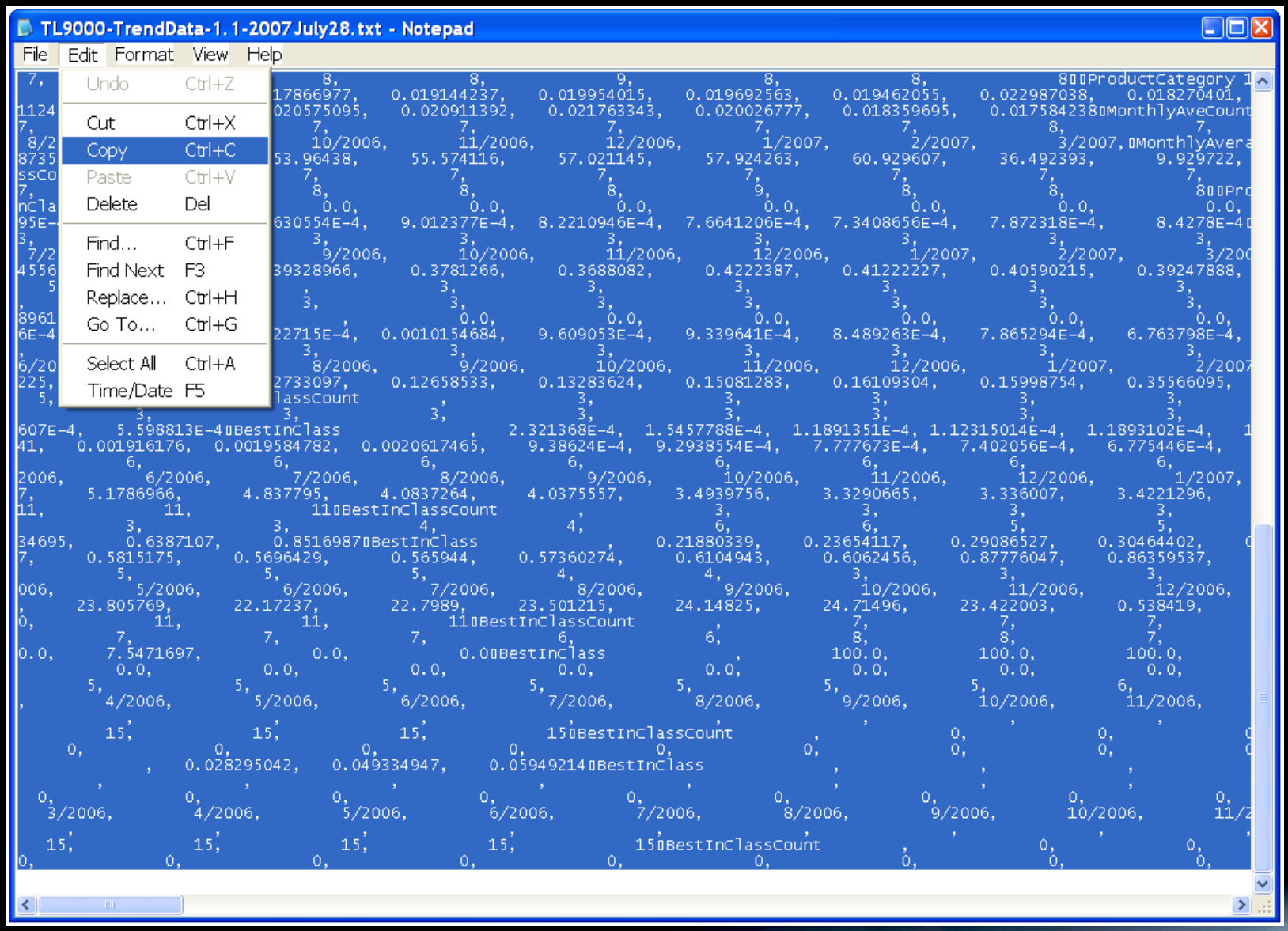
How can you incorporate into your performance results?

- Import information into Excel spreadsheet
  - Download text file via
    - Individual Product category Download
    - Download all PCT data via Zip File
  - Convert text to Excel usable information
  - Import into Organization's performance charts to show industry average, BIC, and WIC on your performance charts
  - See following example for 1.1 - Switching

Download txt file from PDR Area for PCT

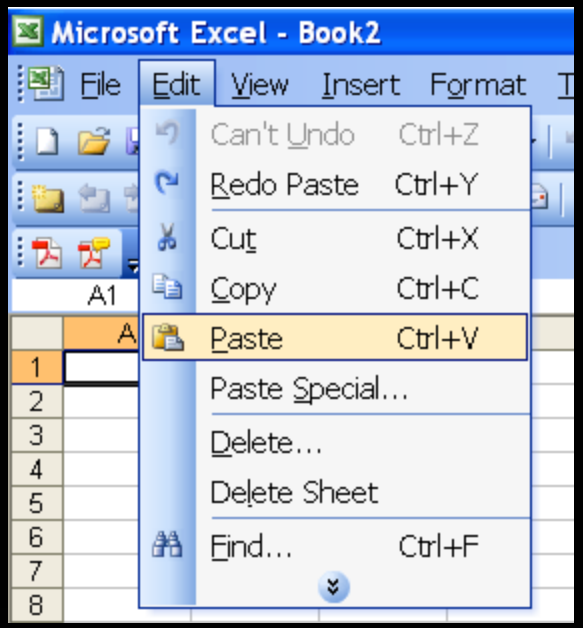


Highlight all data in file and click “copy”

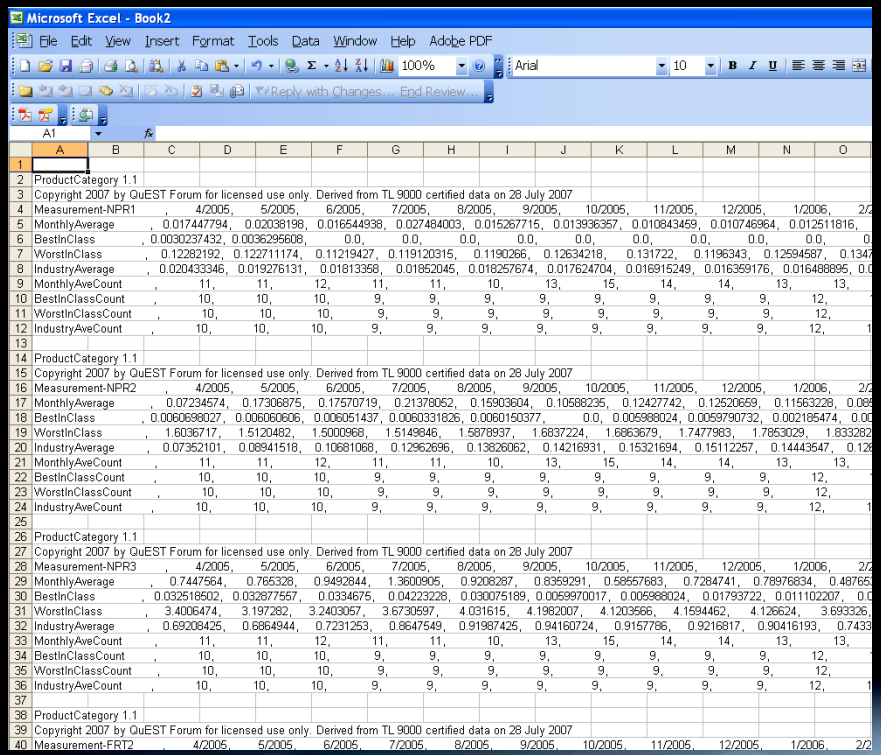


Open spreadsheet and Paste Data

- **Put Cursor on Cell A1 in empty spreadsheet**
- **Click Edit/Paste**

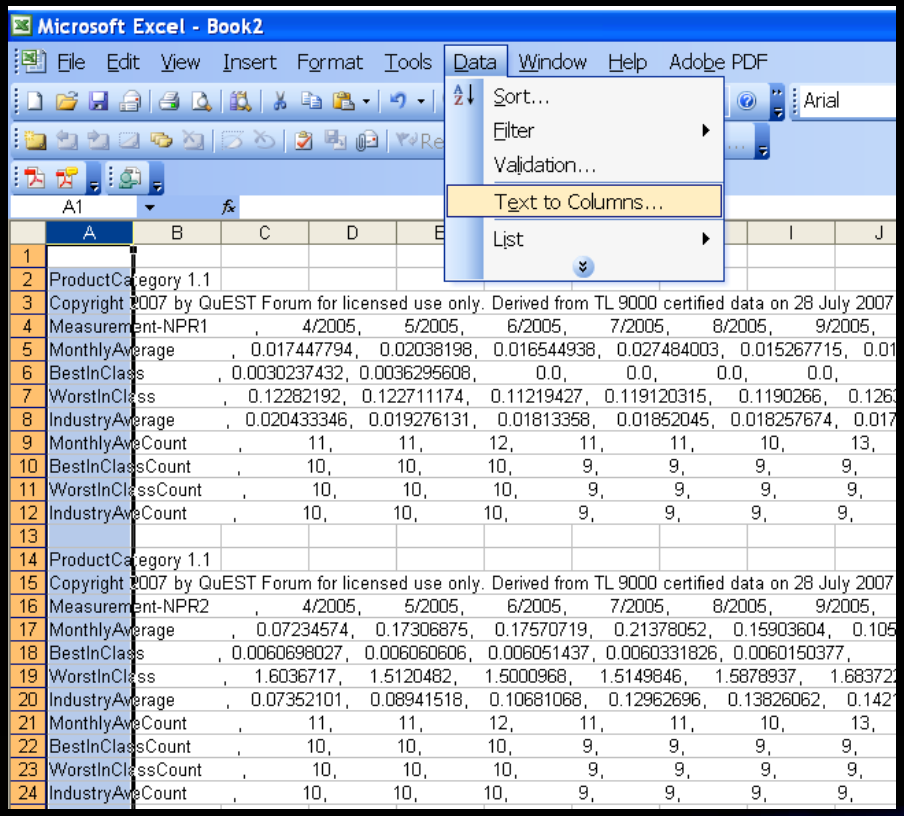


Result looks like

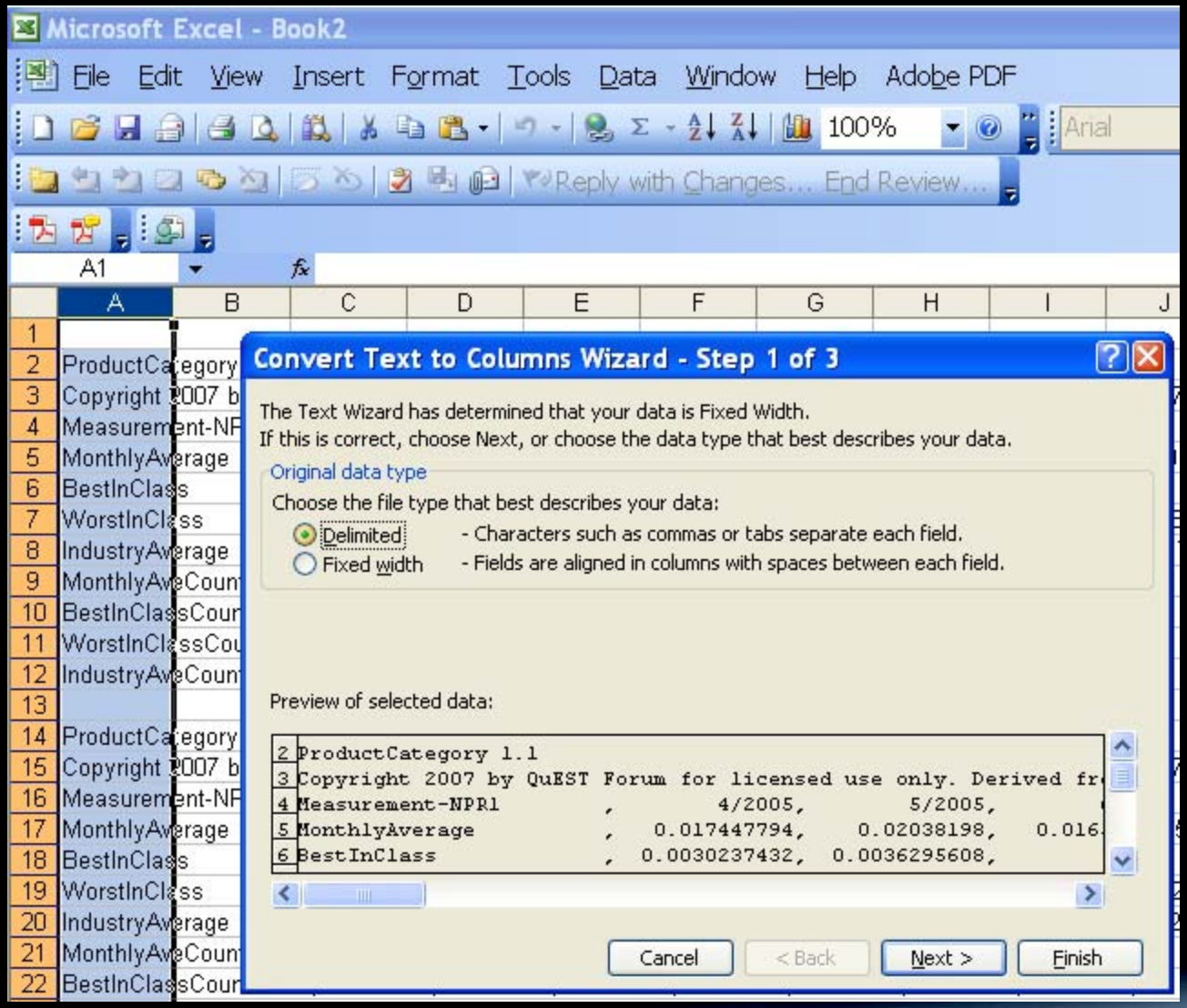


Convert data to usable format

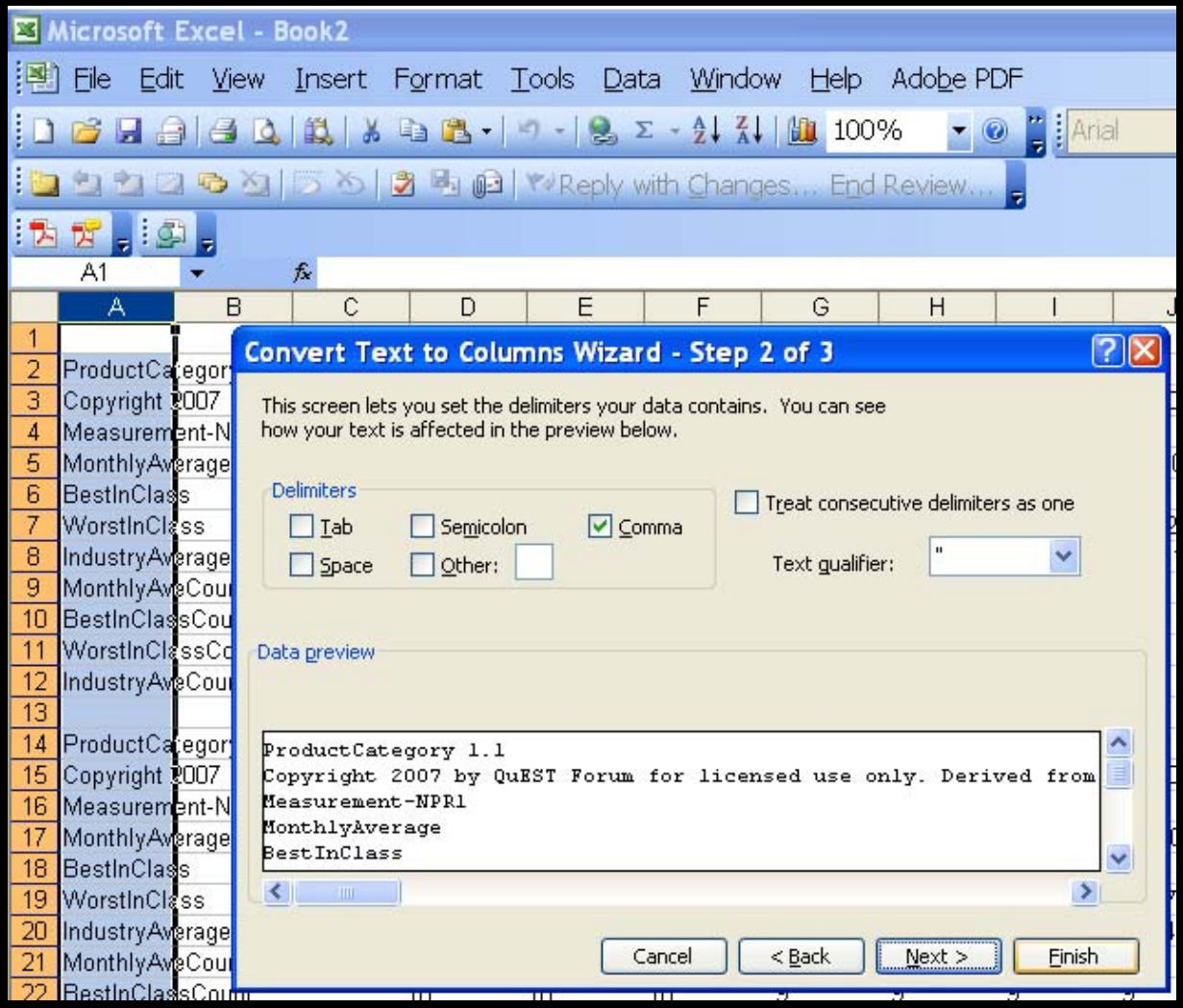
- Highlight column you pasted data into
- Click on Data/Text to Columns …



Select “Delimited” radio button and click “Next”



In delimiters Box, make sure only “Comma” is checked. Then click “Finish”



PDR data is now in spreadsheet for your PCT with monthly performance in columns

Microsoft Excel - Book2

File Edit View Insert Format Tools Data Window Help Adobe PDF

100% Arial

Reply with Changes... End Review...

A1 ProductCategory 1.1

	A	B	C	D	E	F	G	H	I	J
1	ProductCategory 1.1									
2	Copyright 2007 by QuEST Forum for licensed use only. Derived from TL 9000 certified data on 28 July 2007									
3	Measurem	4/200	5/200	6/200	7/200	8/200	9/200	10/20	11/20	12/20
4	MonthlyAv	0.017448	0.020382	0.016545	0.027484	0.015268	0.013936	0.010843	0.010747	0.012512
5	BestInClas	0.003024	0.00363	0	0	0	0	0	0	0
6	WorstInCla	0.122822	0.122711	0.112194	0.11912	0.119027	0.126342	0.131722	0.119634	0.125946
7	IndustryAv	0.020433	0.019276	0.018134	0.01852	0.018258	0.017625	0.016915	0.016359	0.016489
8	MonthlyAv	11	11	12	11	11	10	13	15	14
9	BestInClas	10	10	10	9	9	9	9	9	9
10	WorstInCla	10	10	10	9	9	9	9	9	9
11	IndustryAv	10	10	10	9	9	9	9	9	9
12										
13	ProductCategory 1.1									
14	Copyright 2007 by QuEST Forum for licensed use only. Derived from TL 9000 certified data on 28 July 2007									
15	Measurem	4/200	5/200	6/200	7/200	8/200	9/200	10/20	11/20	12/20
16	MonthlyAv	0.072346	0.173069	0.175707	0.213781	0.159036	0.105882	0.124277	0.125207	0.115632
17	BestInClas	0.00607	0.006061	0.006051	0.006033	0.006015	0	0.005988	0.005979	0.002185
18	WorstInCla	1.603672	1.512048	1.500097	1.514985	1.587894	1.683722	1.686368	1.747798	1.785303
19	IndustryAv	0.073521	0.089415	0.106811	0.129627	0.138261	0.142169	0.153217	0.151123	0.144435
20	MonthlyAv	11	11	12	11	11	10	13	15	14
21	BestInClas	10	10	10	9	9	9	9	9	9
22	WorstInCla	10	10	10	9	9	9	9	9	9
23	IndustryAv	10	10	10	9	9	9	9	9	9

Example Spreadsheet